POLICIES FOR THE CONTAINMENT OF HEALTH CARE COSTS AND EXPENDITURES

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PREFACE

On a continuing basis, the Government of the United States reviews the national health activities of other countries. By doing so, it may better serve the escalating medical requirements of the American people.

Elements important to the health activities of all nations include, among many features, biomedical research, medical education, health manpower, and health services. An analysis of these foreign health-related activities and programs may provide government health administrators with new insights into some of the complex problems relating to improvement of health in the United States.

In view of the historical development of foreign medical systems, we realize that no single country or government may have the type of medical care or health system which will constitute an adequate model for U.S. health assistance, one considered acceptable by all our citizens. Ultimately, the study of certain unusual features of selected foreign health systems may offer a better perspective of health within the context of the U.S. experience. Such insight, however, must include improved understanding of the interrelated political, economic, social, and other cultural aspects of our society itself.

To gather perspective on the health activities of other countries, the John E. Fogarty International Center for Advanced Study in the Health Sciences, in 1975, initiated the Health Policy Studies. Preparation of this series involved scholars and specialists from a variety of fields. This small, multidisciplinary group was brought to the Center to examine selected topics of interest to health policy scholars, planners, and administrators from the public and private sectors of this and other countries. Their efforts resulted in a series of international conferences and individual studies. This document, *Policies for the Containment of Health Care Costs and Expenditures,* represents the proceedings of one meeting in that series.

Instrumental in coordinating the Health Policy Studies was the International Cooperation and Geographic Studies Branch, a component of the Fogarty International Center of the National Institutes of Health.

The Center itself was established by Congress in 1968 and named in memory of the late Congressman John E. Fogarty of Rhode Island. Mr. Fogarty, in his address to the Third National Conference on World Health, in September 1963, called for "a great international center for research in biology and medicine, dedicated to international cooperation and collaboration in the interest of the health of mankind." Since that time the Center has functioned as a forum for drawing together the talents and resources of other countries and engaging them in ways that bear on the many and varied health problems of the United States. This volume represents one aspect of that mission.

Inquiries about this and other publications of the Health Policy Studies and the Geographic Health Studies series, which are listed elsewhere in this book, should be directed Dr. Joseph R. Quinn, Chief, International Cooperation and Geographic Studies Branch, Fogarty International Center.

Milo D. Leavitt, Jr., M.D.
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WELCOMING REMARKS

I am delighted to greet all of you this morning and to welcome you to the National Institutes of Health and to the Fogarty International Center.

In June 1975, the Fogarty Center hosted an international conference on health care costs and expenditures. At that conference, spokesmen from foreign countries as well as from the United States described their health care and financing systems and presented information on recent cost and expenditure trends.

One of the most striking features of that conference was the similarity of cost and expenditure patterns among the countries. It was evident that, although systems differed greatly, underlying pressures and factors were common to nearly every country. In the conference we begin today, I hope we shall explore the reasons for the rapid increase in health care costs and expenditures in the United States and abroad.

In searching for ways to contain costs of health care, we at the Fogarty International Center believe that much can be learned from the experiences of other countries. This is not to say that any country has solved the problems or even that if it has, its solution could be adopted readily here in the United States. But it is clear that other countries have had decades of experience in dealing with policy issues that are of current interest to us.

By presenting these experiences and subjecting them to analysis we hope that our own policy can be improved and strengthened, and we hope that our foreign colleagues will find this interchange of ideas equally rewarding. We thank you for joining us here today. May I wish you a very pleasant and productive conference.

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1

STUDYING HEALTH CARE COST CONTAINMENT OUTSIDE THE HEALTH CARE SECTOR

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Introduction

A framework for the study of health care cost containment measures may have many entrances. I have selected a nontechnical and narrow approach to the problem. This approach is based on the fact that most conference sessions apparently will focus on factors and measures within the health care sector itself. No doubt this focus involves important keys to the solution of cost containment problems.

Socioeconomic Development, Health, and Demand for Services

The World Health Organization (WHO) General Assembly of 1972 discussed the interrelationship between socioeconomic development, health, and health programs. The introduction to the report (WHO Public Health Papers No. 49) states:

> Socio-economic development includes development in the health field. Every sector of the economy has a health component of such importance that it cannot be disregarded in any major socio-economic development. The health component and other components of the total system necessarily interact. Health not only affects the remainder of the socio-economic complex but it is also affected by it, sometimes favourably, sometimes unfavourably.

This knowledge is very old. However, today many researchers realize that, although many keys to the cost containment problem are found within the health care sector, it is equally important to focus on factors outside of it.

The idea is rather simple. It has been shown that demand is an important factor in health care cost inflation and, therefore, we must study these demand factors and control them.

Let me further narrow my focus. At this time I am not interested in the fact that richer countries are more willing to spend a higher proportion of gross national product on health services. I am not interested in the fact that higher levels of education induce sensitivity to symptoms and health problems and, therefore, increase demand. I am not interested in the fact that the typical industrialized demographic structure—with increased average length of life—increases health services consumption per life span.

All these factors are important. But what I am interested in at this time is controlling health care costs by controlling epidemiological patterns—the pattern of disease and, thereby, the demand for health services. Sick and injured people want health services, of course, and rich countries can afford to provide them to a certain limit. But the marginal cost today of saving a life and treating disease by means of curative medicine is so enormous that more and more scientists, politicians, and others have concluded that the marginal health value of a dollar invested outside the health care sector is greater than within it. Unfortunately, our precise quantitative knowledge of this relationship is limited, but I want to stress that a very important component of a framework for the study of health care cost containment and related measures is this relationship.

Let me give some examples:

1. Two and one-half percent of all hospital services in Denmark are allocated to treatment of traffic accidents. It has been demonstrated convincingly that regulation of the transportation sector, investment in traffic safety, and educational efforts can decrease demand for health services drastically—a fact demonstrated in many European countries during the oil crisis some years ago.

2. Occupational accidents are known to be related to fluctuations in the economy. Man and machine fit together best in economically stable periods. During "ups," investment rate and turnover of labor cause man and machine to fit badly. Upward trends and fluctuations in accident rates occur, and a great number of these accidents can be controlled if society is willing to do so.

3. Labor payment systems that stimulate increased productivity are known to increase occupational accidents and nervous and muscular strain more than payment systems based on fixed income per hour. Accident rates and severity of accidents in a Swedish mine, for example, dropped drastically when a productivity-increasing income system was abandoned.

4. Various chemicals, dusts, and gases are well-known short- and long-term health hazards. Inadequate occupational safety is a problem in most countries. Health services pay the bill for the resulting injuries.

5. Premature birth is a well-known, lifelong risk factor in both mental and somatic illnesses. More perinatal care is received today—this means expansion within the health sector. For example, it has been demonstrated in Finland that women with congenital small hearts who undergo physical strain during pregnancy often produce premature babies. By X-raying pregnant women and intervening in the work situation, physicians have reduced the prematurity rate from 7.5 to 4.5 percent during a 4-year period. This means that the health benefit is obtained mainly outside the health care sector.

6. Senility and health problems in old age differ greatly, depending on work situations and pensions. Those who reduce work gradually and

work longer than the traditional age for retirement have fewer health problems.

7. Research indicates that reduced morbidity—and, therefore, less demand for health services—can result from a more equal distribution of the total resources of the society. We must ask, therefore, is the cost crisis mainly a distributional crisis?

Conclusion

These examples, and there are many more, show that today we have more and better information on the interrelationship of socioeconomic development, health problems, demand for health services, and cost of health services. Yet our exact quantitative information is astonishingly small.

I have stressed these interactions because I consider the cost containment problem to be a part of the more general value crises that exist in many countries today. The cost containment problem has many dimensions, and all these dimensions must be studied separately. One important approach to the cost containment problem and cost containment measures is to study factors outside the health care sector.

2

PROCESS OR OUTCOME MEASURES FOR COST CONTAINMENT OF HEALTH CARE

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The term "cost containment of health care" implies an action. It implies the existence of policy regulations or programs that achieve containment of costs. The measurement of cost containment is different from that employed in traditional cost analysis in the health sector. Traditional cost analyses are based on a set of indexes that are produced routinely for comparisons and occasionally are used to indicate a need for changes in policies. Measures of cost containment should be selected specifically for each program and should describe the outcome of the program.

The purpose of this paper is to clarify the differences between these two types of measures and to point out a special feature of cost containment measures. In the first part of this presentation, a number of national indexes of the health sector are shown to exemplify the classical analysis of expenditures for health services. Next, the hospital sector is used as an example for the use of classical measures of cost and utilization. Finally, a distinction is made between cost containment measures in hospitals and classical measurements.

There may be more than one definition for the term "cost containment of health care." The following discussion is based on the assumption that cost containment means one of the following: (a) a reduction of total cost with simultaneous increase or at least no change in output of health care; (b) an increase in output of health care with simultaneous reduction or at least no change in cost; (c) an increase in cost of health care with a simultaneous larger relative increase in output; or (d) maintenance of a status quo in both the cost and output of health care.

The meaning and measure of health care are discussed later.

The national expenditures for health services in Israel have not escaped the trend of the high rate of inflation demonstrated in many countries. Total expenditures for health services in 1975 are estimated at I£ $(4.7).10^9$ versus I£ $(3.28).10^9$ in 1974 (unadjusted prices (*1*).[1] These figures amount to an increase of 2 percent in real expenditures per capita, and an increase from 6.1 percent of gross national product (GNP) in 1974 to 6.5 percent in 1975.

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[1] The average official exchange rate in 1974 was $1.00 + I£4.50; in 1975 it was $1.00 = I£6.58.

Current expenditures for 1975 are estimated at I£ $(3.96).10^9$, which amounts to 84 percent of the total national expenditures, and are divided as follows: 42 percent inpatient care, 53 percent outpatient services, and 5 percent other services such as private consumption of medications, instruments, etc. Another division of current expenditures is 70 percent to manpower and the balance to medication, equipment, and supplies.

Estimated investments in the health sector for 1975 are I£ $(7.4).10^8$, 90 percent of which is directed to hospitals and the balance to outpatient clinics. Seventy percent of the total investment is directed to construction, while the remaining 30 percent is used for equipment (Tables 1 and 2).

The government's share in financing the national expenditures for health services has increased from 33 percent in 1971 to 44 percent in 1975. This is not equal to the government's share in the provision of

TABLE 1

ESTIMATED NATIONAL EXPENDITURES FOR HEALTH SERVICES IN ISRAEL, 1974-76 (IN MILLIONS OF I£ CURRENT PRICES)

	1974	1975	1976
Current expenditures	2,780	3,960	5,120
Investment in fixed assets	500	740	740
Total national expenditures	3,280	4,700	5,860

SOURCE: (*1*)

TABLE 2

ALLOCATION OF RESOURCES TO THE HEALTH SECTOR EXEMPLIFIED BY INDEXES OF THE ISRAELI ECONOMY

	1971	1972	1973	1974[a]	1975[a]	1976[a]
National expenditures for health services as percent of GNP	5.4	5.6	5.7	6.1	6.5	6.4
Current expenditures for health as percent of private and public consumption	5.3	5.5	4.6	5.0	5.0	5.3
Investment in health as percent of investment in fixed assets in the economy	1.7	2.2	2.7	2.7	3.2	2.9

[a] Estimated figures

SOURCE: (*1*)

services, which amounts to 25 percent of all health services. Most of the difference is due to the subsidies paid by the government to the various Kupat Holim (sick funds), whose deficits are a repetitive, annual phenomenon.

There is an extensive literature in the study and analysis of the cost of health services in general *(2–6)* and that of hospitals in particular (*7–12*). These and similar studies have common goals: to analyze cost behavior of the health sector, to pinpoint the major contributors to the cost of health care, and to indicate general directions for possible policy interventions.

Most of these studies discuss the difficulties associated with assessing costs in the health sector. Further difficulties exist in finding assessment techniques amenable to comparisons, either longitudinal comparisons for the same hospital, region, or country or comparisons between hospitals, regions, or countries.

Feldstein (*7*) discusses problems involved in using average cost per patient day as the choice cost measure for hospitals. He proposes several methods for deflating this measure over years and adjusting it for various contributions such as private, government, and third-party payers. He continues to discuss alternative measures such as cost per case and shows the impact of varying lengths of stay on this measure. Klarman (*10*) suggests a method of adjusting the impact on cost per stay by variations in average length of stay. Total hospital cost (*9*) also has been used occasionally, including various adjustments for special features existing in some hospitals and not in others.

These cost measures are acceptable, despite their shortcomings, because better ones are not available. In addition, studies that aim to provide macrocost information do not require extreme levels of accuracy in assessing the indexes that are being used. It usually is sufficient to assure reasonable consistency of measurement. Consistency often is nonexistent because of variations in bookkeeping methods and in definitions of cost items.

The situation changes when goals become action oriented. Cost containment is an action-oriented goal, and therefore the choice of measures of effectiveness takes on a different emphasis. The main difficulty in evaluating the effectiveness of action-oriented goals is in the definition of outcome measures. It usually is easier to define process measures which indicate that a job is being done, how much of it is accomplished, and when and where it is conducted. It is more difficult to identify measures of outcome showing the extent to which the original goal has been accomplished.

The process of hospital care is shown schematically in Figure 1. Notice that the elements of this system provide the source of common hospital cost and utilization indexes. These usually include, among others, such measures as: (a) number of admissions per year; (b) number

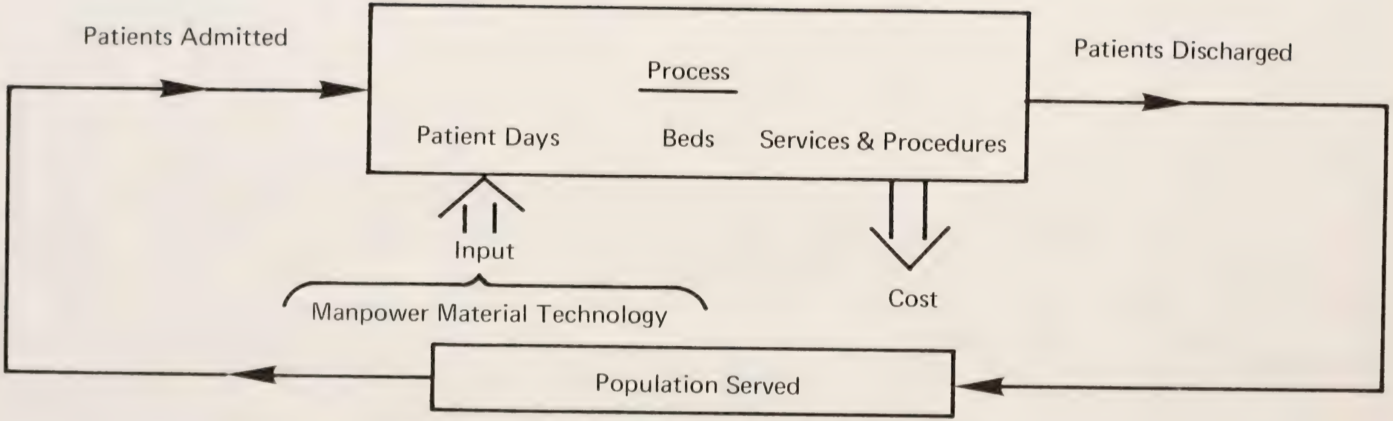

Figure 1. Schematic diagram of the process of inpatient care.

of discharges per year; (c) number of beds; (d) number of patient days; (e) number of services (X-ray, laboratory, etc.); (f) number of types of manpower (physicians, nurses, etc.) (g) cost (total, cost of labor, materials, overhead); and (h) size of population served.

The derivatives of these measures, in the form of averages and rates, can be calculated readily, such as average length of stay, percent occupancy, cost per day, cost per stay, ratio of admissions to population, labor to population, labor to bed, etc. These measures and their derivatives are process or input measures. No real output (outcome) measure is included.

There are many well-known difficulties in assessing these values. They include differences in the definition of terms and in accounting systems, lack of comparability between hospitals or between services, differences in population served, etc. For example, Table 3 shows some common indexes relating to inpatient care in acute, general, short-term hospitals in Israel during the years 1972–74. Unless hospitals receive strict instructions and definitions concerning the indexes to be reported, some may include maternity beds and some may not, others may include day care beds or dialysis beds and others may exclude them. In general, are beds a meaningful measure? Is a maternity bed comparable to a bed in a coronary care unit?

Similarly, the second line of Table 3 shows the annual number of beds per 1000 population. But are beds per 1000 population in one region similar to that ratio in another region? How are these beds distributed in the regions by specialty? Indeed, in 1974 the Tel Aviv region had 2.47 beds per 1000 people, while the Jerusalem area had 4.27 beds per 1000. Also during that year, there were 0.41 internal medicine beds per 1000 in the northern region vs. 0.96 internal medicine bed per 1000 in the southern central region. Thus a situation described by an index of beds per 1000 seems to be stable over time but is variable with respect to other criteria.

Similar weaknesses are inherent in the other indexes shown in Table 3, but despite this, such indexes generally are accepted and used in cost

TABLE 3

SOME BASIC UTILIZATION DATA FOR GENERAL ACUTE CARE HOSPITALS IN ISRAEL, 1972–74

	1972	1973	1974
Number of beds (national)	10,383	10,678	11,524
Beds/1000 population	3.26	3.29	3.29
Average length of stay (days)	8.2	8.0	7.9
Percent occupancy	96.0	93.4	94.3
Government expenditures for hospitalizations (in I£)	1.6×10^8	2.5×10^8	4.6×10^8

and utilization studies, in planning and evaluation studies, and in comparative analyses between countries. However, in evaluation of the effectiveness of an action-oriented goal, it is not enough to analyze the process; an attempt must be made to analyze the outcome of the program. There are at least two major reasons for this need. First, outcome measures are those that provide true information on how well a program achieves the stated goals; second, process measures are subject to manipulation by the people involved in the program, thus frequently they provide a biased picture of the true process. Some examples may clarify these issues.

Kupat Holim Klalit, the largest sick fund in Israel, receives its operating funds through members' dues, employers' contributions, government subsidies, payments by nonmembers for services rendered, and other contractual arrangements. The fund, being a special service to members of the General Federation of Labor, is interested in cost containment programs that will minimize the financial burden on its members.

One of the suggested cost containment programs has been to reduce the cost of medications used. In 1975, Kupat Holim spent about I£200 million for medications. It was decided to cut this cost item by charging the public a minimal fee of I£0.5 per prescribed medication, instead of dispensing medications freely as had been the prevailing policy.

The measure used in this program was the total cost of medications to Kupat Holim during that year. Naturally, the measure fits the process perfectly, and, assuming that the program had had no effect on consumption patterns, the organization would have shown a substantial decrease in cost for each medication. As a matter of fact, this decrease would be precisely equal to I£0.5 times the number of prescriptions written during the year, less the investment and operating expenses of the collection system. But would the outcome lower the cost to the members? Obviously not, because the members are paying the additional charge.

It also may be assumed that the small charge would cut the cost per medication by encouraging patients to be more selective in their use of medication and to use less. This is more likely among patients of low income, especially those who are sick and require many medications. Since the primary objective of Kupat Holim is to achieve the highest possible degree of "mutual aid," namely, equitable division of the burden of health care costs among all members,sick or healthy, poor or rich, this program was bound to fail. In fact, it was repealed by the parent organization, the General Federation of Labor, as being contradictory to the principles of the Federation.

In this case, the director of Kupat Holim was willing to introduce a program to lower the cost of medications. However, it was not a cost containment program but rather an increase in indirect dues paid by some members. A proper choice of outcome measure would have prevented management from proposing this program. It was rejected for various reasons, some political, but one was that the expected outcome was in opposition to some of the organization's goals.

Another case exemplifies the intervention of management in biasing process measures. Most hospitals in Israel are owned by Kupat Holim or by the government and are funded annually on the basis of a budget submitted to the central offices of their respective organizations. The appropriation of funds is conducted according to a complicated system of rules, one of which relates to the number of beds in each hospital and to the percent occupancy of those beds during the previous year.

This policy provides the managers of hospitals with an incentive to keep patients a little longer than necessary whenever their percent occupancy is relatively low. When this practice was uncovered, another rule was instituted, namely, to penalize hospitals that exceed acceptable levels of average length of stay. This policy provides managers with an incentive to bias both percent occupancy and average length of stay. It has been suggested that in some departments of certain hospitals, patients are requested upon their discharge to return for a followup examination at which time they may be rehospitalized for a short stay. In this way both measures are satisfied; percent occupancy is kept high, while the average length of stay is maintained at an acceptable level.

Providing rewards or applying penalties on the basis of process measures alone may create an incentive to interfere with the process so as to effect a change in one direction or another. In such cases, the process measures do not reflect necessarily the true achievements of the institution.

Without underrating the importance of hospital utilization review, whether it has had a total positive or negative effect on patient care is questionable. The fact that Medicare legislation in the United States required utilization review from hospitals that wish to receive Medicare reimbursements for their senior citizen patients has provided the hospitals with incentives to bias their utilization experience.

For the lack of outcome measures, the Ministry of Health in Israel decided to move to a capitation incentive reimbursement program in funding the operations of its hospitals and health care facilities in 1976. As a first step, funds allocated to hospitals and regional offices for the first time were provided to management to be used at its discretion. In previous years funds were allocated with strict designation of budgetary items. The restriction that managers were not permitted, as a rule, to transfer funds from one budgetary item to another eliminated all incentives to make the provision of services more efficient. The new system stipulates only that a certain percent of the budget must be used for medical services and the balance for administration. An upper limit is placed on manpower that can be employed by the hospital during the year, and the manager is required to operate the institution effectively at the given budget (no criteria for measurement are designated).

The shortcomings of this plan are clear: (a) There are no measures of effectiveness; (b) there are no measures of quality; and (c) there are no specifications of the incentive to the hospital to keep its operation within the given budget, except that if all funds are expended before the end of the year, the hospital must cease its operation. Because the manager knows that closing the hospital is not a feasible solution, the incentive to operate within the budgetary limits is questionable. In addition, the chance that the administrator will be removed for incompetence is minimal because of the political structure that is responsible for his appointment.

Figure 1 shows that the system as presented lacks the important elements of output (outcome) and quality. The process of health care requires certain inputs; it yields a certain quantity of services of a certain quality at a certain cost. These elements are interrelated strongly and any change in one is likely to affect the others. Increasing quantity may decrease quality or increase cost. Similarly, decreasing cost may result in lower quality or fewer services. A true cost containment program must ensure that the outcomes are at least unchanged and possibly improved. Quantity of services is measured by the process measures discussed previously. The inevitable question is, what is quality and how should it be measured?

Hardwick and Wolfe (*13*) report a number of cost containment projects installed in a number of hospitals in western Pennsylvania. Expert industrial engineers developed improved subsystems within these hospitals. Blue Cross of Western Pennsylvania reimburses hospitals for care provided to its subscribers. Blue Cross has a large number of subscribers and therefore finances a large proportion of the hospitals' costs. Any successful cost containment program benefits Blue Cross because it reimburses hospitals according to their true cost. All true cost savings therefore were shared with the hospitals through a special reimbursement agreement with Blue Cross of Western Pennsylvania. In this project, true cost containment was achieved with increased quantity of services and maintained quality because the actual medical services were not affected.

In the Negev (the southern region of Israel) an attempt is being made to improve quality of care, increase quantity of services, and achieve these at a fixed cost through an organizational change. Historically, health services in the region have been provided through three agencies: Ministry of Health, Kupat Holim hospitals, and Kupat Holim outpatient clinics. The Ministry of Health provides preventive care and some psychiatric care. The Kupat Holim hospital provides all emergency care services, inpatient services, and consultative services. Kupat Holim clinics provide most of the primary and some specialty ambulatory services.

Under guidance of the new University Center for Health Sciences, an integrative process is taking place aimed at providing comprehensive health care of high quality to the residents of the Negev. The integration is characterized by combining management, mutual planning, and, eventually, financial management. Agreement between the university and Kupat Holim has placed the operation of the hospital, the clinics, and the School of Medicine under common direction. A similar agreement is now being negotiated with the Ministry of Health. Despite the lack of present formal agreement with the Ministry of Health, its regional director cooperates actively in the program. A committee of the individual directors of each service, namely, the director of the hospital, the director of ambulatory care, the regional director of the Ministry of Health, and the Dean of the School of Medicine, meets regularly to coordinate the activities of these organizations. It is still too early to assess the impact of this organizational change on the quality, quantity, and cost of services in the region.

Extensive literature exists on the quality evaluation of medical care (*14–16*). Donabedian (*14*) has distinguished among several types of criteria (measures) for quality evaluation. In most studies the distinction has been made between process criteria and outcome criteria. In essence, the situation is similar to the cost containment measurement. In quality assessment as well as in measurement of cost containment, it is necessary to measure input process and/or output. Because there is a lack of proper output measures, process criteria are selected both in quality of care and in cost studies.

Process measures in quality assessment are acceptable, within the limits of the measures, as long as the evaluation is geared toward planning or preparation of continuing educational programs. When quality assessment becomes a component in decision making concerning action-oriented goals, such as certification and recertification of professionals or reimbursement for services rendered, the measures must include, in addition to the process, some outcome criteria. Without this, process criteria alone give providers incentives to bias the process in their own favor. This does not imply that physicians necessarily would provide poorer care; it is conceivable that quality would remain constant while the selected process criteria were biased to indicate the desirable effects. In such cases, the impression of improved quality obtained by the biased process measures is erroneous because the actual quality has not changed.

The concept of critical process criteria has been used to suggest an improved measuring device in quality of care (*17*). Critical criteria are those elements in the process without which the outcome cannot be reached. Therefore, these elements are absolutely critical to the process and to the outcome. Unfortunately, these criteria are as elusive and difficult to define as are the outcome criteria.

It is clear that quantity, quality, and cost are modifiers to health care and therefore must relate to the total of health care, namely, to inputs, processes, and outputs. It is necessary to determine the output level reached, to measure the process leading to this output level, to enumerate the input used to expedite the process, and to relate to them the appropriate levels of quantity, quality, and cost.

The diagram of a health service in Figure 1 may be altered slightly as in Figure 2. The emphasis here is on the change in health status achieved through the process of care. The objective of the health care system is to reach and maintain a high health status in the population. Elements of the health care system aid in reaching this overall objective, and the total of these contributions is the output of the system. The population served provides the input to the system, it bears the cost, and it benefits from the system in the amount $\Delta H = H_1 - H_0$ which is the change (preferably an upward change) in health status achieved by the system.

Therefore, the objective of a cost containment program is to minimize the cost at which a certain desirable health status level is to be maintained. Alternatively, this objective could be to maximize the health status level that can be achieved at a given cost. A similar presentation of the optimal care for an individual has been discussed by Barnoon and Wolfe (*18*). The application of a health status index to health services outcome is discussed by Fanshel and Bush (*19*). They provide several examples, including a simulated program aimed at solving a planning problem of cost containment of the second type, namely, maximization of the output at a given cost. Packer (*20*) discusses the application of cost effectiveness to the community health system and develops conceptual measures of effectiveness.

Using these approaches to the planning of cost containment programs, the measurement of the actual impact of the program becomes routine. Measures are specified to include all input levels, process utilization requirements, health status levels, and total cost figures. Data collection is a routine part of the daily operation of the program. Evaluation concentrates on accumulating these elements at designated time intervals and comparing each set of figures to the previous one. The ratio of percent change in effectiveness to percent change in cost must be equal to or greater than 1 to demonstrate improvement in health status as a result of the program.

Summary

The installation and evaluation of cost containment programs are action-oriented and therefore frequently create conflicts between the program's objectives and those of either the providers or the consumers.

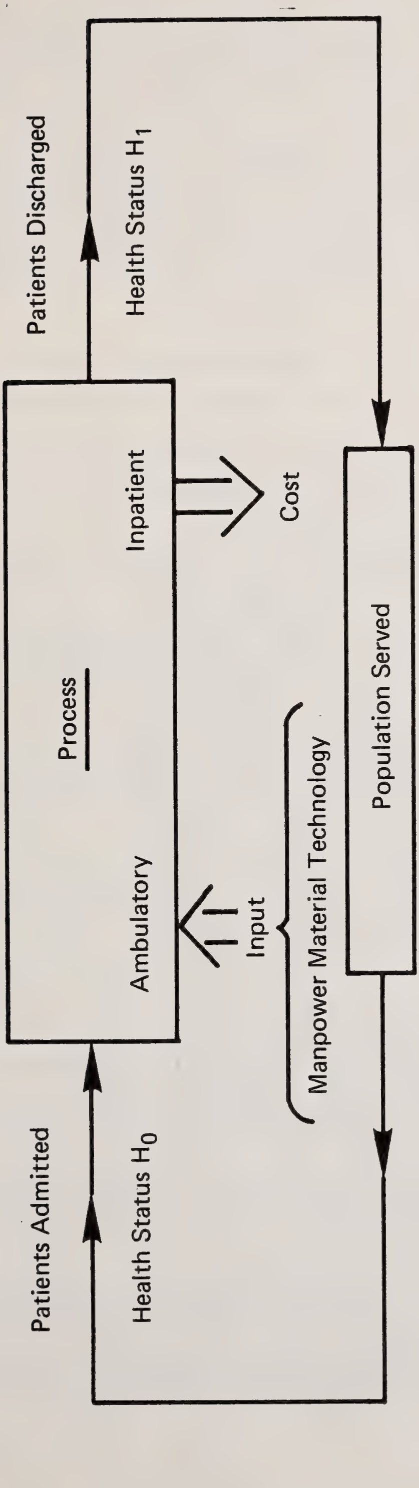

Figure 2. Schematic diagram of the process of health care.

In such cases, the common problems of measurement are amplified. The ability of the parties involved to bias the measures when the measures are process-oriented adds a significant difficulty to the normally complex task of program evaluation. Several cases were cited to demonstrate this phenomenon. An argument was proposed for the inclusion of outcome criteria in the evaluation. Despite the difficulties involved in identifying and using outcome measures, it is increasingly important to invest in research to develop reliable outcome measures of health care. These outcome measures are fundamental to the measurement of quality and cost containment of health care services.

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3

RESEARCH BY THE INTERNATIONAL LABOR OFFICE INTO THE RISING COSTS OF MEDICAL CARE UNDER SOCIAL SECURITY

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INTRODUCTION

The International Labor Organization (ILO), which was created under the Peace Treaty of Versailles in 1919, has operated since 1946 as a specialized agency associated with the United Nations. Its original membership of 45 nations now has grown to 129. Its permanent secretariat is the International Labor Office in Geneva. The unique feature of the ILO, as an international organization, is its tripartite structure, with its governing body consisting of representatives of governments, or organizations representing workers, and of organizations representing employers. Member states are represented similarly at its annual conference, and the tripartite structure is preserved in the many regional conferences and industrial and advisory committees.

The ILO engages in such activities as:

- The formulation of international policies and programs to improve working and living conditions, enhance employment opportunities, and promote basic human rights;
- The creation of international labor standards to serve as guidelines for national authorities in putting these policies into action;
- An extensive program of international technical cooperation to help governments in making these policies effective in practice; and
- Training, education, research, and publishing activities to help advance all these efforts.

Social security is a main area of emphasis. Activities include setting of international social security standards, promotion of harmonization of social security legislation, technical cooperation with developing countries, and provision to them of a wide range of advisory services and programs of studies and research. These various activities take place in coordination, as appropriate, with other organizations in the field of social security, including medical care, such as the International Social

Security Association (ISSA), the World Health Organization (WHO), the Council of Europe, and the European Economic Community.

In the American region, the ILO has a mandate to sustain coordination with organizations such as the Inter-American Committee on Social Security, the Organization of American States, the Pan American Health Organization, and the Ibero-American Social Security Organization; biannual consultations are held under ILO sponsorship.

The current research program includes a study of the rising cost of medical care under social security, with which this paper is concerned.

THE BACKGROUND

The end of World War II and the period of postwar reconstruction which followed saw a considerable upsurge in the introduction and extension of social security programs in many countries, as regards both financial systems having income maintenance as their purpose and the provision of medical care for the majority of the population, if not for all of them.

At that time of dynamic innovation, it was considered that a main result of a comprehensive medical care program would be a decline in morbidity, so that the consumption of medical care, if it were not actually reduced, would be reasonably constant, and that accordingly medical care expenditure would account in total for a proportion of GNP which over the years would not be subject to significant variation. It was further suggested that the promotion of health through medical care programs could increase labor-force productivity and thus the gross national product (GNP) itself. The credibility of these assumptions, however, was soon questioned.

In 1953, in view of the growing apprehension in social security circles at the increase in the cost of medical care, the ILO undertook a study of its cost under social security schemes in a number of countries.[1] The results of this major undertaking, containing much by way of original research and analyzing the results of a substantial collection of basic data, were published in 1959 (*1*). The general conclusion offered some reassurance as regards periods up to 1955: "The present study does not bear out the commonly held belief that there is a general tendency for all medical costs to rise—or it rather indicates that they have not risen any faster than national income or reference wages, although hospital costs show a certain tendency to outstrip the rest."

A second major ILO study in the field of medical care was undertaken by Dr. Milton I. Roemer of the University of California (*2*). This was concerned with systems more than costs, but observed that ". . . everywhere in the world the costs of medical services have been rising . . ." and that ". . . it would appear that this rise has been not only in absolute expenditure, but also in the percentage of the national income spent on health services." This was said in the light of, *inter alia,* a WHO study (*3*) that related to the early 1960s, since updated in part by the U.S. Department of Health, Education, and Welfare in the March 1973 edition of its *Social Security Bulletin*. That WHO study stressed the point that a growing proportion of total health expenditure was being devoted to hospitals and went on to say that, in general, the rate of overall increase was such that an additional 1 percent or more of GNP seemed to be absorbed in health expenditure every 10 years, and that before the end of the century, if present trends continued, there would be countries in which more than 10 percent of the GNP would be devoted to health services. Other experts subsequently have produced higher estimates more rapidly achieved.

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[1] Lists of the countries and details of the schemes included in the ILO studies mentioned are given in the appendix.

A third ILO study undertaken in 1973 (*4*) compared the merits of centralized systems as opposed to the simultaneous operation of separate health insurance schemes covering selected population groups, with the continuing role of the private sector, and with questions raised by health insurance designed to cover situations of catastrophic sickness. Again, a cost appraisal was not the central purpose, but the study reiterated international concern with the rising cost of medical care programs under social security, both absolutely and in relation to economic indicators, and referred to the amount of work being done in various countries toward the establishment of causes and the indication of trends.

Nor have other international organizations been inactive in the area of medical care costs. The International Social Security Association's (ISSA) Permanent Committee on Medical Care and Sickness Insurance decided in 1970 ". . . to undertake a study designed to reveal the general causes explaining the increase in sickness insurance expenditure . . . ," which naturally encompassed medical care, and in 1972 issued an introductory report that included references to national studies already undertaken or currently in progress. The European Institute of Social Security considered "Evolution and Financing of the Cost of Medical Care" at a seminar in Paris in 1970, and published the proceedings and research papers in a 1971 report. The Council of Europe, through its Committee of Experts on Social Security, following a resolution adopted in 1969 by the Committee of Ministers, is working the same field. The European Economic Community is concerned with the social budgets of the nine member countries, a concern that also involves medical care. The Organization for Economic Cooperation and Development, within the framework of its Economic Policy Committee, currently is studying public health expenditure in its member states.

No doubt an extended list of similar research projects, whether completed, in progress, or contemplated, could be compiled for other international organizations.

There is no need to prove to this conference that medical care costs practically everywhere have been rising faster than the economic indicators. This was demonstrated amply, for example, in papers presented at the Conference on Health Care Costs and Expenditures held in June 1975 at the Fogarty International Center. A symposium in Geneva in the autumn of 1974, organized by the Henry Dunant Institute, produced a very interesting and well-prepared report: *The Health Care Cost Explosion—Which Way Now*? An article on the rise in employee health care costs appeared recently in the American magazine *Business Week* (5). These are only examples of the extensive literature on the subject.

But although the problem is real, not every country is concerned equally about it. Some would say that the growth rate of medical care expenditure under social security cannot be regarded as too high without at the same time considering the growth rate of the total expense of social security, and it is argued that a rising proportion of a country's GNP spent on medical care ceases to be objectionable if it means a larger volume of health services for the population, increasingly and beneficially utilized.

In many countries medical care is provided under social security programs, giving particular significance to the question of the extent to which the rise in expenditure represents a transfer from the private to the public sector. But there is a more far-reaching issue than this. Total expenditure on social security is rising too, and at a rate comparable to medical care in a number of countries. How can the social security totality be contained? Social security can be divided into three main sectors: (1) family provisions, such as children's allowances; (2) retirement, survivors' and invalid benefits—and today, but we hope not tomorrow—high expenditure on unemployment benefits; and (3) medical care. It is difficult to believe that the first two could yield to economy, except perhaps by way of taxation of benefits where such does not already exist, or by higher taxation. The benefits in these sectors represent expectations enshrined in statutory entitlements, usually with built-in adjustments for inflation; far from reduction in expenditures being even theoretically possible, the retirement pension sector, in particular, has a growth rate represented by aging populations and a tendency toward earlier retirement. It may well be that the third sector—medical care—is the area which could yield to containment if not to reduction. At least this is one reason for the concentrated and sustained interest being shown by social security systems in their medical care provisions.

The Variables

Examination of published material has pointed to a number of recognized variables which may be summarized as follows:

1. Inflationary pressures;
2. Population groups protected and their composition, especially age distribution: variations in benefits provided;
3. Consequent removal of financial barriers to health services, guaranteed payment to the providers of care;
4. Greater demands for services by consumers, who increasingly recognize their value;
5. Changing morbidity patterns;
6. Technological development in diagnosis and treatment;
7. Development in the pharmaceutical industry;
8. Sophistication of institutions and delivery systems, both medically and administratively;
9. Increase in numbers and costs of health care personnel;
10. Greater hospital patient turnover, bearing in mind the high cost of initial and concentrated care.

These variables are not listed here in any suggested order of importance, because this can change over a period of time and by country. Some are controversial, some are more important than others, and all can be broken down into component parts. A Belgian study of a consumption model for medical care included no fewer than 87 elements. Listing such factors does not assist greatly in evaluation of the problem. Although a considerable amount of research has been undertaken and is continuing into the rising cost of medical care, much of this is national, often being done in impressive depth by government departments or institutions having program responsibility. Moreover, a number of the international studies are made by organizations having as their members countries that are contiguous geographically or linked economically or politically so that such studies commonly involve data and opinion collected within the member states. Notwithstanding all this endeavor, it does not follow that there is international agreement, or even a meaningful level of comparable international knowledge, on all the causes and their separate and interacting effects, on the implications and trends of the rising cost of medical care, or on the possible containment remedies which might be applied.

The Purpose and Methodology of the ILO Study

The ILO, in cooperation with WHO and ISSA, decided to undertake an international study and appraisal of the causes, both those set out above and others needing to be elucidated and explored, and to evaluate their action and interaction and their relative significance. The study is not designed to promote or to undertake further research but to bring together national and international studies of the rising cost of medical care under social security. It then will continue with an appraisal of causes and their quantified significance, implications of the trends so revealed, and possible action for containment against the background of existing economic, social, and medical infrastructure, and the stage of national development. The project will be of international interest not only to developed countries but also to developing countries now expanding health care systems or contemplating their introduction or change, as evidence of the difficulties which could emerge and which eventually would have to be resolved.

The data will be collected from selected developed countries[2] to secure results based on data (1) available in a coherent series; (2) comparable year by year over a reasonably prolonged period; and (3) covering the relevant areas of economic, financial, demographic, epidemiological, and medical care cost statistics. The material itself depends on what has been collected, analyzed, and appraised. The project is not confined to studies covering a whole country; these plainly are important, but research based on geographical areas or into specific medical care activities can be as valuable. It is hoped the material will cover a recent but reasonably long period, but there is no question of fixing, say, the decade from the mid-1960s to the mid-1970s and rejecting any studies which do not conform to arbitrarily chosen dates. If it is to be successful, the project must be operated flexibly and must accept all the research material that is soundly based.

A main source of material is government departments or government-directed agencies with responsibilities for medical care under social security in the countries selected for study, because such departments or agencies themselves undertake extensive studies of rising costs. A number of international organizations also are being consulted about their research work in this field. Additionally, reputable independent organizations have by no means neglected this field of research, and advantage will be taken of their work as well. Indeed, a study in Belgium and the Netherlands already has been carried out on behalf of the ILO by the Institute of European Health Services Research, represented at this conference by its director, Professor Van Langendonck.

The project essentially is a study of the rising cost of medical care under social security—a phrase which obviously goes wider than "social insurance," whether the latter is used generally or denotes, as here, a state health insurance scheme. It is obvious that medical care systems vary both as to delivery of care and methods of administration and finance. Some countries operate all-purpose, all-residents national health services, as, for example, in socialist countries, the United Kingdom, and, since April 1973, Denmark. Some countries achieve broadly the same result with state health insurance programs, which, in return for contribution payments, provide medical and allied services without charge at the point of delivery, or in some instances with an element of cost sharing. Other countries separate hospital care from such a program. Hospital care may be financed from central or local government revenue, with, in some instances, a patient-per-day rate of payment from the health insurance institution and fixed at a negotiated level which does not necessarily meet the full economic hospitalization cost. But the rising costs of hospitalization, which commonly have been shown to be rising faster than the costs in other medical care sectors, must be included.

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[2] The countries probably will be Belgium, Canada, France, the Federal Republic of Germany, Japan, the Netherlands, Poland, Spain, Sweden, the United Kingdom, and the United States.

Medical care under social security, for the purpose of the project, is regarded as medical care financed from social security programs or from other public revenues, and guaranteed to the population (or to selected groups) as a right, subject to any qualifying tests and to any cost sharing if such conditions are applied. This definition would exclude from the project private health insurance taken out voluntarily by an individual, either as a personal arrangement or as a member of a group, whether with a commercial insurance carrier or some form of nonprofit association. It similarly excludes private medical practice where the physician provides a service or consultation which is neither covered by any form of contractual relationship with a scheme run by the state nor operated under state legislation, whether mandatory or permissive, for which he has complete freedom to decide his fee and where the patient is responsible for payment.

This reasonably clear-cut approach breaks down, however, as regards the United States, where, to quote from a letter received from the Social Security Administration, ". . . the public and private systems are inexorably intertwined since we do have a pluralistic system in which a very large share of the public funds provide reimbursement for care in the private sector." To omit the private sector in looking at the rising costs of medical care in the United States would be a serious deficiency as would an attempt to isolate the rising costs of Medicare, Medicaid, and other public health programs. Flexibility already has been claimed for the ILO study, which certainly would wish to take advantage of the extensive material available in the United States about the medical care industry as a whole.

SOME INDICATIONS

The project is only now getting under way and it is difficult and dangerous to offer tentative conclusions. However, some key areas are emerging—or perhaps it is fairer to say that their importance is being confirmed. Overall inflationary factors so far have been put aside—no doubt in the naive expectation that it should be possible to adjust for inflation to the extent that it affects the national economy as a whole—although the factors to be applied in this kind of elimination process are complex and controversial.

Demographic Changes

Most industrialized countries have aging populations. The importance of advancing age as a prime factor in the increase in needs was highlighted in an article by Dr. J. Dejardin of Belgium (*6*). The likelihood of disorders preventing a person from working for at least a year was some 10 to 11 times higher among those ages 60 to 64 than among those ages 35 to 39, who represented the average age of the insured population. The influence of aging was much the same for salaried employees and production workers, and for men and women. Recent unofficial estimates for the Netherlands for people over pension age indicate that the 11 percent or so of the total population over the age of 65 account for about 30 percent of the total costs of medical care. Elderly people are not a homogeneous group, and it is those over age 75 who have the largest need for medical (and other) services. The projections are less than encouraging as regards costs (Table 1).

It is especially striking that the numbers of very old people in several countries will double or nearly double in 30 years.

In a number of industrialized countries now operating social security medical care programs, expansion of coverage to additional population groups is no longer necessary, because their schemes cover virtually the whole population. However, when expansion was taking place, it often contributed more substantially to rising costs than the proportionate increase in the number covered by the program. In Belgium, the increase in the insured population between 1965 and 1970 was just under 20 percent—achieved in part by the inclusion of "crippled and mutilated persons" in mid-1967, of mentally handicapped persons in January 1969, and of students in mid-1970, all atypical groups.

The Situation During Unemployment

In a number of countries that provide medical care under social security programs, the medical benefits continue during unemployment, although contributions by the insured persons are suspended. High unemployment rates in such countries mean a significant reduction in the program's income. One example is France, where the annual average number of unemployed persons rose from 394,000 in 1973 to 840,000 in 1975. Another is the Federal Republic of Germany, where the comparable figures are 273,000 and 1,074,000, and where health insurance contributions during unemployment are paid into the fund by

TABLE 1

EVOLUTION OF THE POPULATION AGED 60-74, 75 OR OVER, 60 OR OVER, FROM 1970 TO 2000, BY REGION AND COUNTRY

	Indexes (1970=100)		
Country	60–74	75+	60+
Bulgaria	138	215	153
Hungary	108	143	115
Poland	152	222	165
German Democratic Republic	94	117	99
Rumania	151	215	163
Czechoslovakia	97	135	104
Denmark	102	150	114
Finland	112	173	124
Ireland	104	146	115
Norway	93	155	109
United Kingdom	95	140	105
Sweden	92	163	110
Germany, Federal Republic of	103	120	107
Austria	85	113	91
Belgium	100	133	108
France	113	147	121
Switzerland	120	183	135
Albania	250	209	241
Spain	138	178	147
Greece	134	270	166
Italy	139	172	147
Portugal	129	163	137
Yugoslavia	168	185	171
U.S.S.R.	326	227	294

SOURCE: *United Nations Economic Commission for Europe: Economic Survey of Europe in 1974. Part Two: The Demographic Evolution of Europe Since the War and Prospects for the Period up to the Year 2000* (New York, 1976)

unemployment insurance agencies, an arrangement that still represents an added cost to the overall social security program.

Prices of Services Provided Versus Their Volume

Indications so far are that the increasing price of services outweighs their increasing volume—notwithstanding the fact that volume growth is sustained by lower limits of public tolerance of ill health and discomfort; the mounting awareness, promoted by the media, of health matters in general; and demographic changes. M. H. Cooper (7), in an interesting study of resource allocation in the British National Health Service, observed that ". . . like an iceberg, the more resources devoted to melting it, the more 'need' floats to the surface." It seems clear that need grows in direct ratio to services available.

In the Netherlands, for example, health care expenditure, as a percentage of GNP, was less than 4 percent in the 1950s, rose to 5.4 percent in 1968, to 5.8 percent in 1970, and to 8.5 percent in 1975. The effect on health insurance contributions (shared between employer and employee) was similar: The rate, as a percentage of earnings, was 5 percent in 1964, 7.5 percent in 1970, 9.2 percent in 1975, and 9.6 percent in 1976.

The increase in expenditures for health care in the Netherlands was about 18 percent a year from 1964 to 1974 (*8*). Volume increase alone was 5.5 percent, including 1.3 percent for population growth, 1.2 percent for medico-technical progress and quality improvement, and 3 percent attributable to the introduction in 1968 of a catastrophic medical care system for the whole population. (This system provides free hospitalization, subject to reduction of cash social security benefits, after the benefits provided for 1 year by the general health insurance scheme, together with nursing home and similar care.) This left the price increase running at 12.5 percent a year. Dutch proposals for cost containment are discussed in a later paragraph.

It is too early to offer a valid constructive analysis of the many and varied causes of the increased cost of services, but wages for nonprofessionals—increases beyond national averages, higher staffing ratios, improved working conditions, allowances for working irregular hours, better pensions—have contributed significantly. Professor William Glaser (*9*) emphasized in a recent monograph that national health insurance systems operate commonly on the basis of negotiated pay rates for professional services—even though the negotiations can be controversial and vexatious. It would certainly be useful to analyze the surprisingly different costs of selected medical services in various countries.

Hospitalization

The cost of wages is especially important to hospitals, since, in many countries, these amount to about two-thirds of hospital expenditure. A contributing factor is that hospital workloads have increased considerably. In Britain, for example, while the number of hospital beds per 1000 population has declined over the past two decades (from about 10 to 9), the number of inpatients has doubled and the number of outpatients has risen by about 75 percent. All this has been accompanied by very large increases in all types of hospital manpower.

The yardstick usually used to appraise hospital expenditures is patient-day rate. While not perfect, it is better than nothing and should not be overcriticized. However, this yardstick assumes a uniformity that does not exist in kinds of hospitals, treatment, and patients. If comparisons are to be meaningful, it is desirable to compare like with like as far as possible in this difficult area and to break down the patient-day rate into components, drawing distinctions between items of "hotel" expenditure and those of medical treatment.

The same comment could be made about another classic test—duration of hospitalization. Many comparisons have been made, both nationally and internationally, and uncertain conclusions are drawn from relatively small divergences. But some of the differences are large. For example, in the Federal Republic of Germany the average stay in hospitals for acute cases is about 50 percent longer than in the United Kingdom. It can be argued that if insurance pays a patient-per-day rate for most beds, as in the Federal Republic of Germany, there is not the same incentive for earliest possible discharge as there is where a national health service is financed largely through taxes.

The average number of days in hospital per person covered per year also varies substantially from country to country. OECD figures here are shown in Table 2. They indicate differences that need to be explored further.

Cost Sharing

Cost sharing inevitably is a controversial subject that attracts assertions rather than proof. In medical care programs under social security the trend has been toward abolishing cost sharing, or reducing it in real terms where fixed payments have not been raised against price movements. If cost sharing is nominal (for example, the small charges for drugs that apply in some European countries), the effect on consumption also will be marginal. This was demonstrated by cost sharing in reverse, introduced in 1970 in the Federal Republic of Germany, that

TABLE 2

AVERAGE ANNUAL NUMBER OF HOSPITAL DAYS PER PERSON COVERED (1972 OR NEAR DATE, UNLESS OTHERWISE STATED)

Country	Days
Austria (1973)	3.40
Belgium	2.63
Denmark	2.64
Finland	3.79
France	2.50
Federal Republic of Germany (1973)	3.61
Italy (1973)	2.23
Netherlands	2.54
Norway	3.48
Sweden	4.27
United Kingdom (1973)	2.70
United States[a]	4.00

[a] Estimated figure for Medicaid and Medicare programs, representing about 54 percent of public expenditure on hospital care.

provided a bonus of DM 10 per quarter (maximum, DM 30 per year) for an insured person not claiming a medical care benefit. This bonus cost far more than it saved in care provided, and was abolished in 1973.

But if cost sharing is much more appreciable, various lines of discussion are opened up. It can be argued that the purpose of health insurance is to cause the healthy to pay for the sick and that it is the health insurance contributions themselves that are the cost sharing. To levy additional payments during sickness is a contradiction, tempting an insured person to neglect the health of the whole family.

In the absence of convincing evidence, the extent to which substantial cost sharing reduces consumption and how damaging this might be is uncertain. If cost sharing is selective, if it applies to primary care by family doctors but not to hospitalization, or is much larger for the one than for the other, the pattern of delivery can be distorted by excessive use of the free or comparatively free alternative.[3] On the other hand, cost sharing increases the income of a medical care system—which is another way of saying it reduces cost. And given exemptions[4] for special groups—such as children, people on social aid, old-age pensioners and some if not all other social security beneficiaries, pregnant women—a cost sharing system balanced between services could introduce selectivity into the provision of medical benefits. Nonexempt groups could be insured against the cost sharing element, but this would be a private not public provision. These conflicting arguments suggest that the whole question of cost sharing deserves further examination.

CONCLUSION

This paper does not provide a comprehensive review of all the data that so far have emerged or that may emerge later from the ILO study. My purpose is to offer various points of interest that merit further discussion. A wide variety of cost containment measures and possibilities will be discussed at the conference, including the matching of technical ability to the tasks to be performed, standardization of equipment and drugs, well-balanced "resource mix" programs, coordination and rationalization of facilities, better information systems, modified remuneration patterns, and so forth.

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[3] In this connection, it will be recalled that, in the United States, one advisory committee on hospital effectiveness went so far as to recommend relegislation, either federal or state, which would require a minimum *range* of benefits for health insurance, including hospital inpatient and outpatient services, extended care services, home care, psychiatric care, and physicians' services in and out of hospitals. (Report of the Secretary's Advisory Committee on Hospital Effectiveness, U.S. Department of Health, Education, and Welfare, 1968.)

[4] France, like Belgium, retains cost sharing in the form of the "ticket modérateur"—commonly at 25 percent but with variations—for medical treatment, applying it also to the first 30 days in the hospital. The percentage of medical benefits provided to members of the general health insurance scheme *without* the ticket modérateur has, in the light of exemptions, risen from 53 percent in 1968 to 63 percent in 1975.

In the preface to the report of the 1974 symposium organized by the Henry Dunant Institute in Geneva, Dr. Eric Martin, President of the International Committee of the Red Cross said:

> Hospitalisation is expensive, and the cost of a day in a university clinic is exorbitant. At the same time, modern hospital services, developed and maintained at great expense, cannot be fully exploited for lack of staff. This will probably be a continuing problem in most countries.
>
> The remedy is simple. Hospitalisation, especially in university clinics, should be reserved for patients whose conditions require complicated apparatus or highly qualified staff. Large numbers of patients could more easily be served, and unnecessary hospitalisation avoided, by expanding out-patient diagnosis and treatment centres and polyclinics and relying more on home nursing, which is more humane, cheaper and probably just as good.

Some aspects of the program (*9*) of structural reform proposed as a basis for action in the Netherlands are of interest. Apart from a reorganization of distribution coordinated at central, regional, and local levels and strengthened overall national planning, the purpose of the program is to shift substantially from the "second rank" of care (hospitalization and specialist treatment) to the "first rank" of nonspecialist care. This would be achieved by a progressive and gradual reduction in the bed capacity of general hospitals from the present five and one-half beds to four beds per 1000 population, a similar reduction in mental hospitals from two and one-half beds to two beds per 1000, and reorganization and rationalization of the "superspecialisms" as distributed between hospitals. This would be accompanied by increased facilities for chronically ill patients who need little more than nursing home care: At the same time, the first rank would be reinforced to deal with the intended shifts in the flow of patients to outpatient departments, first-rank facilities generally, and home nursing. In particular, group practice in health centers would be promoted, with a 50 percent increase in the number of family doctors between 1972 and 1982 and a new training program for them. Family doctors also would have access to facilities of the second rank such as laboratory and X-ray equipment. As is true now, the route to the second rank would be via the first rank, but only essential transfers would be made. It is intended to monitor all these changes so that their continued extent and direction can be determined. The results as they emerge could be of considerable interest nationally.

APPENDIX

COUNTRIES INCLUDED IN EARLIER ILO STUDIES OF MEDICAL CARE UNDER SOCIAL SECURITY

The Cost of Medical Care: ILO 1959

This study was based on an analysis (in most cases covering periods ending in 1955) of the expenditure on medical benefits of the following selected social security medical care services operating in 14 countries.

Belgium—the general compulsory sickness and invalidity insurance scheme for employees;

Canada (Saskatchewan)—the medical practitioner service for the residents of the Swift Current region and the hospital insurance scheme for residents of the whole province;

Chile—the general social insurance scheme as it existed prior to 1953, for manual workers and independent workers of small means;

Denmark—Voluntary subsidized sickness insurance scheme for residents of small means;

England and Wales—the National Health Service;

France—the compulsory general social insurance scheme for nonagricultural employees;

Federal Republic of Germany—the general sickness insurance scheme for employees;

Italy—the compulsory general sickness insurance scheme for employees and certain groups of independent workers;

Mexico—the compulsory sickness insurance scheme for employees;

Netherlands—the compulsory medical care insurance scheme for employees of small means;

New Zealand—the social security medical care service for the whole population;

Norway—the compulsory and voluntary sickness insurance scheme, mainly for employees of modest means, as it existed prior to July 1956;

Switzerland—the subsidized voluntary or compulsory medical care insurance funds for residents;

Venezuela—the general compulsory sickness insurance scheme for industrial employees.

(In addition, for the United States, estimated private expenditure on medical care and contributions to voluntary insurance schemes, and the expenditure of all hospitals in the country, were given.)

The Organization of Medical Care under Social Security: ILO 1969

This study, which selected a group of countries illustrating the principal variations of the organizational patterns of medical care, covered systems operating in eight countries:

Belgium
Federal Republic of Germany
Canada
Great Britain
Ecuador
India
Tunisia
Poland

Medical Care Systems: ILO 1974

This study, which concentrated on a comparison of universal systems and separate systems operating simultaneously, the continuing role of the private sector, and attitudes toward state health insurance against situations of catastrophic sickness, considered 10 countries:

Japan
Federal Republic of Germany
Great Britain
Netherlands
Australia
Belgium
Sweden
Switzerland
Denmark
New Zealand

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4

STRATEGIES FOR HEALTH CARE COST CONTAINMENT

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I am on the program as a link with the past. I have had the rare privilege, along with a few others here, of having participated in the Geneva conference in October 1974 and that in June 1975 as well as this one.

When I was in Geneva in 1974, I reported that the United States had just ended its Economic Stabilization Program (ESP) and had been assured by its provider community that, after a very temporary bulge due to the necessity of getting back what the government had taken away, everything would be all right and health care and medical care costs would approximate the consumer price index.

I was not convinced by the views of our provider community and some other so-called experts, and I stated repeatedly that we were in for a new wave of inflation in health care costs that would rival, if not exceed, anything in the past. Unfortunately, I have been proved right. The United States maintained the pace it began in 1974, with health care spending rising at the rate of 13 and 14 percent per year, hospital fees and the cost of a day in the hospital rising at about 16 percent, and physician's fees rising at about 12 percent.

The only good thing about this story is that I have won a number of free dinners by betting my provider friends that, in spite of their good intentions, they would continue to figure out new ways of spending our money. They have. I will continue the bet because, unfortunately, I am convinced that nothing will happen in the United States to stop the rise of health care costs.

The government is trying to do what it can. It is trying to implement a number of legislative provisions that the Congress assigned to the Department of Health, Education, and Welfare. You will be discussing some of these during the next couple of days: our rather innovative and somewhat controversial Professional Standards Review Organization (PSRO) program; the implementation around the country of our certificate of need program, which is aimed at trying to limit the construction of marginally useful or unnecessary hospitals and other capital facilities; Section 223 under the Social Security Act that limits the increases some hospitals can charge to our Medicare and Medicaid programs; and Section 224, which tries to limit the increases in physician fees that the government will pay.

These all are regulatory measures. In addition we are trying to implement a far-reaching health planning bill which we also will talk about. Dr. Gaus no doubt will discuss the experience under the prospective reimbursement system.

These types of procedures—planning, regulatory, and new reimbursement systems—are new, fledgling efforts designed to control health care costs. As of today, we see only the costs of setting up these programs; they have not been in operation long enough for us to reap any benefits. Some of us are quite skeptical as to whether we ever will see sufficient benefits to equal the costs of operating these programs, but the level of frustration in Washington is such that we are ready to try anything to control the rate of increase.

For our guests from abroad, I should put in perspective where the President and his Administration stand on the issue of health care costs. The President—and I know this personally—has spent considerable time on the problem of health care costs. It is one of the leading increases in his budget, and one that he has tried to control without success. The President and his key advisers are against regulatory measures. They believe that they do not work and are counterproductive. Consequently, the Administration has been experimenting with a rather controversial series of programs in an effort to make the market work better.

Unfortunately, the market does not want to work better. The people we count on to make the market work better do not really want to play in that game. The President for example, proposed under our Medicare program for the elderly that there should be a 10 percent cost sharing, and he was prepared to balance that cost sharing with an equal dollar increase in catastrophic protection. That proposal met with almost total and uniform condemnation by both the Congress and groups representing the elderly.

President Ford also tried to change the matching formulas between federal government payments and those of the states in an attempt to put a lid on Medicaid costs. The Canadian government is going through a similar exercise in its effort to limit the federal share vis-a-vis the provinces. My latest reading is that Canadians have not quite succeeded in convincing the provinces that this is a good idea. You will be happy to know that we have not convinced the states that it is a good idea either. So that is another noble experiment—or somebody, I am sure, could come up with a couple of other adjectives—by the President and his Administration to make the market work better.

But we are not yet completely out of the ball game. We have a number of regulatory commissions around Washington that are not strictly in the health arena but are going about the business of making the market work better. We have something called the Federal Trade Commission that is looking at the practices of our anesthesiologists and other physicians and questioning the kinds of procedures they use to quote costs.

The Department of Justice is investigating the Blue Shield financing system and questioning whether that organization should be tied so closely to the physician community. The Supreme Court recently has ruled that states cannot prevent pharmacists and pharmacies from advertising drug prices.

While this whole regulatory activity goes on—PSRO's, health planning, certificate of need—there is comparatively little effort to try to make the market work better. Only haltingly are we pushing for more sharing, more advertising, and more information, trying to break up the little cartels—well, they are not so little—that permeate our medical profession.

From an academic point of view it is quite interesting to watch this country go down these two paths with neither group really talking to the other. There is little harmony between these two camps; both are determined to control health care costs but they march to different drummers.

We also have a new addition—the wage and price unit. It does not have the power and authority once enjoyed by the ESP, but it has the same intellectual stimulation. It prepares impressive reports and carries signs saying "Health care costs are rising, health care costs are rising, please, somebody do something!" It tries to bring the two camps together, the regulator camp on the one hand and the free-market camp on the other.

But after all these activities, this country has not begun to control health care costs. The message that I have been taking around the country is a rather pessimistic one. If anything, I see counterproductive activities as opposed to productive ones.

There is one bright spot on the horizon. At long last the business community in the United States—General Motors, General Electric, and other big contributors to the health care system—is waking up to the fact that health care is costing it more than any other service it buys. A figure that is being talked about with great frequency is that General Motors pays $1,700 per employee per year in health benefits. Blue Cross is the largest supplier of service to General Motors, not U.S. Steel or a battery manufacturer.

These employers are really concerned, and they are determined to do something about it. Whether they are going to be any more successful than the government remains to be seen, but for the first time the interests of the government and those of private employers are the same, and both are anxious to do something about this problem.

I hope that from conferences like this will come the intellectual brainpower to provide these policy makers, both in government and the private sector, with some mechanism that can work. That is why I am so optimistic.

5

A FRAMEWORK FOR THE ANALYSIS OF HEALTH CARE COST CONTAINMENT POLICIES

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Purpose of the Inquiry

This inquiry explores the options available to a country attempting to contain or reduce prices of and expenditures for health care. It has two distinct components—an enumeration of the various measures that could be attempted, and a deeper analysis of potential applicability and impact within another country's particular institutional setting.

First will be the development of an analytical framework by which health care cost containment programs can be seen within the context of a health delivery system. This framework will be crucial later as the impact of specific programs is assessed and the importance of specific national factors in determining the outcome is examined.

In many areas, the direct experience of the United States is limited, so that a strictly indigenous study design would omit analysis of certain policy options which might be suitable for the United States or might be adapted to be made suitable. For this reason—the broadening of the base of experience—the study is an internationally comparative one.

The choice of countries whose experience can be compared to that of the United States is a much-debated issue. Papers have been written on the classification of health systems and on the comparability of one to another (*1*,*2*).

Initially, one might infer from these lines of argument that idiosyncratic differences between countries would make a cross-national comparison with the United States of limited value. A case can be made, however, that all health systems deal with the same price and expenditure determinants and every country is confronting the same pressures, dealing with the same forces and institutions and choosing from basically the same set of policy instruments (*3*).

The crucial aspect of a study such as this is the analysis of the mix of policy alternatives chosen by a country, and factors determining the success or failure of any particular action taken. From this analysis one can extrapolate with some confidence from the wide variety of experience observable in foreign health systems in a country such as the United States.

Nature of the Problem

The health care industry is one of the largest in our economy, with annual expenditures on services approaching $140 billion in 1975. Average per capita expenditure was in excess of $600 in the same year. Over 8 percent of our nation's gross national product (GNP) was allocated to health. This industry employed 4.5 million people in 1971—5 percent of the civilian labor force—and ranked third of all industries in terms of employment.

Size alone, however, is not the explanation for the public's interest in the organization of the health system or in its propensity to suffer price or expenditure increases out of line with other sectors of the economy. The concern stems from several peculiar characteristics of "health" as a product, and from the market for health services. The natures of these peculiarities are not as readily explainable as one might think. The "urgency" of need for health care services often is held unique to this product. While it is true that some demand arises from a critical, "life or death" situation, most of it does not. In fact, concern often is raised that people are using health services for nonurgent, nonserious, or even trivial conditions. In any event, it would be difficult to make a case that the demand for health care was any more urgent, or demand more inelastic, than the demand for food, shelter, or security.

Another argument that has been used to demonstrate the uniqueness of "health" as a commodity is the consumer's ignorance about the "product." The consumer or patient is presumed to understand little about the necessity or desirability of medical treatment or its nature. This presumed ignorance of the patient creates acceptance of the situation whereby the one who exercises the "demand" for health care is not the consumer at all but an appointed "agent," his physician [see (*4*)]. The importance of this "agent" relationship is greater when one considers another factor unique to health care—the preponderance of third-party financing.

In 1973, 40 cents out of every health expenditure dollar was governmental, and only 60 cents came from the private sector. Out of the 60 cents, 25–27 cents was paid by third-party intermediaries, including private health insurance and philanthropy. The remainder, approximately 35 cents, was direct payment by patients to providers. The implication of this is that those who exercise the preponderance of effective demand are not consumers, but physicians, the government, and insurers who neither receive the care nor bear the ultimate financial responsibility of paying for it. The market component of expenditures, where the consumer pays directly for services rendered, accounts for approximately one-third of the expenditures. This situation, where two-thirds of the expenditures are made by those acting on behalf of the consumers and less than one-third by those consumers, creates some unique circumstances whereby little market impact would result from informed consumers shopping wisely and comparing alternatives. Instead, the demand essentially is derived technologically and is beyond the reach of market forces. This situation does not apply in other product markets and is perhaps the crucial difference between "health" and other commodities.

Professional autonomy of the medical establishment has been maintained to a higher degree and for a longer time than for other professions, largely as a reaction to the state of ignorance of consumers. The "mystique" of medicine has enabled physicians to dominate the occupational hierarchy of health professions, as well as maintain a hegemony over professional aspects of operation and regulation of facilities and organizations—hospitals, clinics and even Health Maintenance Organizations (HMOs). The medical community controls its own house as well, through control over medical schools, examining and certifying bodies, and the licensing process at the federal, state and local levels.

The market for health care services is unique because of the separation of rational economic criteria from the consumption decision. This separation is effected by both the third-party payment system and by the agent relationship between the patient and the physician. An interesting question is whether the market would function any differently if one of these forces were removed. Whether or not both are needed, both exist and appear to act as binding constraints within the market.

The Containment of Costs

The containment of costs of health care is an ambiguous term because of a frequent failure to distinguish between price and quantity effects. Both elements are variables in the health system, of course, but movements in either have different significance and are best controlled by different instruments. The term "inflation" refers to pure price movements, while expenditures are the product of price and quantity, so that increases in expenditures can result from either increased prices *or* quantity (utilization).

To illustrate the point, one notes that expenditures on health care in the United States rose 22.6 percent from 1965 to 1967, during which time Medicaid and Medicare were implemented. The size of the increase was large and foreshadowed an upward shift in the trend line of expenditures. But in spite of the increased pressure upon prices, increased utilization rates accounted for the major proportion of this rise in expenditures, which was, of course, the principal objective of the two programs. One sees, therefore, that a rise in expenditures for health care, per se, is not undesirable. Similarly, the rise in hospital employee wages, especially at the lower-skill levels was, in large measure, responsible for the rise in hospital prices during the 1960s [see (*5*)].

If this phenomenon occurred as part of a move to cover more workers under the minimum wage regulations, then the rise in hospital costs could be entirely justified by other criteria, and so an upward price shift would not necessarily need to be countered by public policy measures. Both price and quantity movements—the two components of changing levels of expenditures—must be analyzed carefully, both for their underlying cause and their broader impact.

Approaches to the Containment of Costs

One can liken the health system to an engine (Fig. 1), receiving flows of inputs, maintaining internal functions, and producing an output. The operation of this health care "engine" has developed considerable autonomy over its internal workings and its output over time, so that external control mechanisms are not well established. Uncontrolled, the engine consumes inputs at an endogenously determined rate and produces a level and type of output that is determined similarly. The level of prices and expenditures for this output is determined uniquely by the system, with the consumer sector (on the left of the figure) generally presumed to be subservient to the producer side (on the right). If one desires to impose controls on the output, this can be accomplished in one of two ways. Either the internal workings can be adjusted to change the output indirectly, or direct intervention can be applied to the output—such as by placing a load on the engine's driveshaft to slow it down. Both will work, if done properly, but the outcome of the entire system will differ because if one alters the internal workings, the change in the output will not be completely predictable, while if one imposes direct controls upon the output, the degrees of freedom within the system will allow changes there which may be more or less predictable or desirable. In actuality, both approaches to cost containment are being employed in various countries, as they are in the United States, perhaps characteristically. The most common approach toward cost containment appears to be the adoption of various controls on providers, either inducing or coercing them to operate with greater efficiency or at a lower cost. These measures impact directly upon inputs (e.g., control over staffing criteria, drugs chosen, or capital equipment employed) or upon prices which can be charged (e.g., fee schedules, room rate regulation). The presumption of these controls or constraints is that overall prices and/or expenditures can be moderated indirectly through alteration of the production process. The objectives of this strategy often are thwarted because of the complexity of the process and the numbers of degrees of freedom remaining in the system. Though controls affecting some subsystems may function well, it is possible that other subsystems react in a way that is detrimental to the broader objectives of the program. A few examples will be useful for illustration. The Medicaid program reimburses providers in most states according to a fee schedule

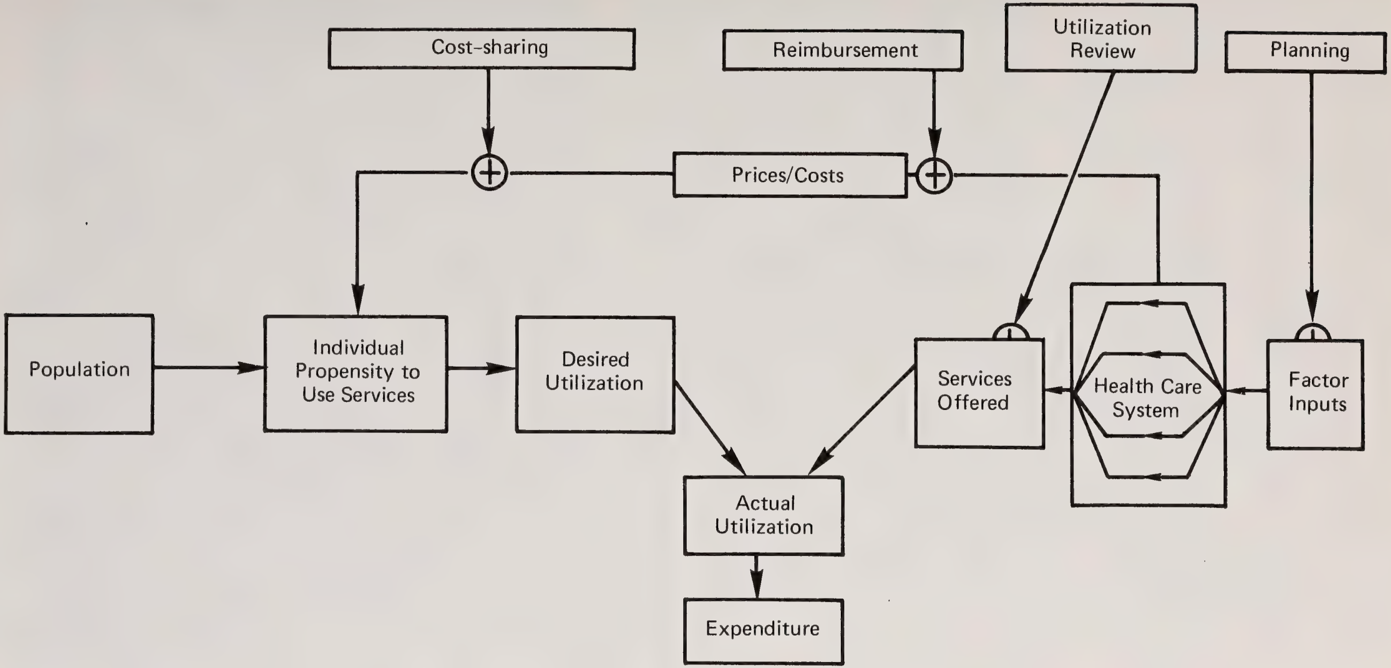

Figure 1. Determinants of health care expenditures.

deliberately pegged at the lower end of the distribution of market prices. Although the government can guarantee noninflationary medical care prices, it cannot guarantee to Medicaid patients access to all physicians.

Reduced accessibility of the poor to office-based physicians has led to high use of emergency rooms and hospital clinics which are more expensive than market-priced physician office visits. A second reaction to restrictive price schedules is a higher consumption of individual services per physician contact. A revenue shortfall caused by low price is made up through increased "volume" of services. Thus one sees clearly that a "price control" tactic for cost containment may produce side effects which are the opposite of those intended.

If one accepts the difficulty of attempting to control expenditures through intervention into subsystems, perhaps a more direct approach would work better. Great Britain, and to a limited degree the United States, has attempted to place an overall ceiling on health expenditures (or a portion of them) at the gross, aggregate budget-setting level. This tactic is appealing because the end result is more predictable as long as the budgetary technique is one that actually can work, rather than being subject to overruns and supplemental appropriations. This approach attempts to leave subsystems and other internal aspects of the overall health system alone. Wages, task delegation, facility construction, and fees are all left to work themselves out internally, subject to the overall limitation imposed. The major difficulty in imposing ceilings on total health expenditures is that reaction within subsystems may be unfavorable and self-defeating in the long run.

If constrained budgets are the objective of health policy, a strategy of expenditure limitation, by definition, should be successful. But if the objective of a health system is to provide for health care, then one must ask whether the new constraints will interfere with that objective to a significant degree. In Great Britain, for example, an overall spending ceiling has been applied to the health sector, and this is being implemented through rationalization of health facilities and personnel. This has created an imbalance between the supply of newly trained physicians (especially specialists) and the number of positions available to be filled (*6*). The dissatisfaction has been noted especially among young specialists who are looking for avenues of professional advancement and find instead that the skill pyramid shrinks rapidly as one rises to the top. Substantial emigration of British physicians already has occurred, with the flow directed at the United States, Canada, and Australia. The outflow has been matched by immigration from other countries, especially India and Pakistan. Though the new stock of physicians in Britain may be unchanged, the internal efficiency of this transfer replacement and its impact upon the donor countries is becoming a subject of increasing concern (*3*).

Global budget reductions also can be implemented by altering the benefit package for eligibles, as was done in California during the "Medical Experiment." State Medicaid participants were required to make a copayment for each physician visit or prescription and were limited to two office visits per month unless unusual circumstances could be proven.

Some controversy exists as to the impact of these restrictions on utilization or even more importantly upon aggregate health expenditures, and there is some evidence that restrictions on outpatient services directed patients more toward use of hospital services—hardly a visible move toward efficiency or cost containment [see (*7–9*)].

What this experience illustrates is that cost control measures can be imposed at either end of the health care production process—either at the technical production stage or at the final cost "output" stage. Whichever application point is chosen, however, the policy ramifications are felt throughout the system because of the interdependence of the various components. In discussing health care cost containment programs, it becomes clear that our ignorance concerning the production process of health care and the way in which the production process generates costs is immense.

The four cost containment strategies we shall be discussing over the next 3 days attempt to increase the technological efficiency of the health production process by intervening in the price and expenditure model depicted earlier. Each of four policy approaches has direct impact in mutually exclusive ways, though indirect responses will overlap.

Utilization review attempts to restrict use by imposing upon providers criteria to justify use of particular services such as surgery, laboratory tests, or hospitalization. In the United States, utilization review usually has been portrayed as a mechanism to "assure quality" through restricting use of needless and often dangerous procedures (e.g., surgery) to those patients actually in need of the service. The effort to reduce the use of unnecessary services is, of course, consistent with the concurrent goal of cost reduction. But the setting of standards defining "appropriate" care applies pressure upon providers to insure that patients receiving less than this level of care shall be brought up to the "norm." Figure 2 illustrates the impact of choice of this "norm" on total costs of treating a particular medical condition. The frequency distribution for care delivered positions patients receiving low and probably deficient levels of care to the left, and patients receiving very intense and perhaps excessive care to the right. Patients to the left of the norm will receive more than they had been receiving, while those to the right will receive less. A comparison of the areas under the frequency distribution will determine whether quality assurance will increase or decrease total treatment cost for a disease or condition. The norm portrayed in the

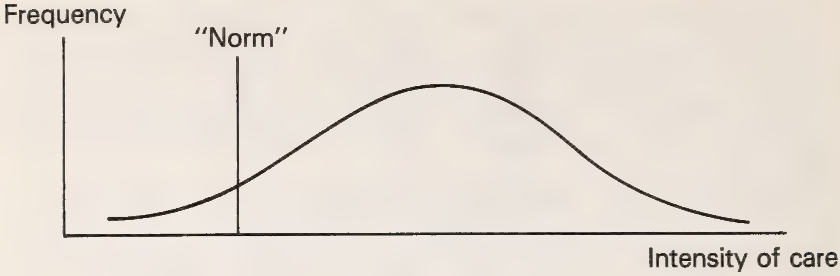

Figure 2. The cost implications of quality assurance.

figure represents a situation of widespread excessive use (such as prescription of antibiotics, tonsillectomy, and so forth), while generally deficient care would be represented by the placement of the norm on the right-hand tail (illustrating, perhaps, the case of administration of polio vaccine or diet counseling). If the normal standards were proper and applicable to all patients, all patients would be better off—those who would have received excessive care would have been deficient. The cost implications, however, no longer are favoring reduction exclusively.

Another question that needs to be addressed is whether a norm can be set that applies meaningfully to all patients regardless of access to various services. Will patients in physician-shortage areas (within regions or neighborhoods), for example, face the same hospital admission or length-of-stay criteria as those for whom ambulatory care is readily accessible? Traditional economic theory would predict that an efficient allocation of resources would result from a greater use of those that are in relative abundance, while other, more scarce, resources would be used more sparingly. In an area which is short of physicians one would justify substitution of hospital care for office visits, while, for the same medical condition, shorter hospital stays with more office visit care would be warranted in a community with a relative abundance of physicians. Unit standards, determined by medical criteria alone, will not maximize efficiency of the system.

A second strategy for reducing unnecessary utilization of services applies pressure on the patient rather than on the provider. By requiring the patient to bear a portion of the cost of service (the *variable* cost component, not only the average or aggregate cost component), one institutes the same incentives on patients as exist in most markets, where price shopping and cost effectiveness criteria enter the consumer's calculus. The ability of the patient to exercise consumer sovereignty is a much debated point and is at present the subject of a large-scale experiment. At the heart of this issue, of course, are the price sensitivity of the patient in selecting his own treatment pattern and that of the physician, who may have been delegated to make those decisions on his behalf, and the relationship between the patient and physician as preferences are exercised reflecting the patient as consumer and the physician as technically oriented professional.

One can attempt to influence utilization rates by applying incentives to providers to increase efficiency, of course. Alternatives to full ex-post facto cost reimbursement are attempted. For private physicians, reimbursement rates for specific services can be adjusted to encourage higher productivity, substitution of physician extenders where feasible, or use of specific types of services thought to be of greater social good (e.g., preventive services for children).

A fourth approach more forcefully constrains the provider. This is the use of health planning to ration service use. When hospital beds or surgical suites are overcrowded (i.e., higher indirect cost), their uses are restricted to those cases in urgent need and are not responsive to substitution by other service mixes.

All of these cost containment strategies, with the exception of utilization review, act at a more aggregate level than a particular disease or medical condition. Hence the medical sequelae to an incentive reimbursement system for providers or patient cost sharing and creation of input scarcity through planning are largely unknown and, as has been suggested for utilization review earlier, may well reverse. For this reason a study of the cost implication of a cost containment measure must include elements of output (or "quality") standardization in the same way that a study of a "quality assurance" program must contain an analysis of attendant cost implications.

The health care industry now is recognized widely as producing a variety of outputs. But more relevant to this inquiry is the fact that production processes consist of many stages, with numerous intermediate goods being produced in various locations by personnel of varied skills and professional affiliations. The components of the production process are all interconnected in such a way that manipulation of one part may well impact upon adjacent parts of the system. These interactions may be reinforcing or they may be counteracting.

Numerous examples illustrate how disjoined, rather than coordinated, financing creates internal inefficiency within the system. The bias toward use of hospital services caused by relatively better insurance for inpatient rather than outpatient services has been well documented in the United States. Where barriers exist between primary-care physicians and hospital-based specialists, as they do in numerous countries, there are problems of potential overuse of hospital services as (1) ambulatory physicians seek to pass off patients to the hospital sector, or (2) hospital physicians attempt to maintain a dominant role in treatment. Where substitutable services are financed by different agencies—public or private—restrictions or financial constraints applied to one component produce spillover effects onto the other. In the case of Denmark, contraceptive services are financed by localities, while hospital abortion services are organized at the regional level. When budget restrictions forced cutbacks on local health agencies, subsequent increases in use of hospital services were observed, to the detriment of the patient and the financial planner. Care for the elderly is acknowledged to be a serious concern whose importance has been increasing and will continue to do so. An essential step in the containment of costs for geriatric care is the coordination of many stages, from acute hospital care, to convalescent homes, to homemaker aids. Utilization of an inappropriate level of care is wasteful and harmful to the patient. These examples highlight the anachronism whereby home-based services often are financed locally, while acute-care services usually are regulated, organized, or financed at a higher governmental level.

Because of the interrelationships between components of the health care system, it is essential that a system-wide assessment be made of the impact of cost containment programs, rather than focusing on the direct impact on one segment.

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6

DISCUSSION I

Dr. Shlomo Barnoon: Inflation in health services is just as apparent in Israel as anywhere else. The ratio of health expenditure to gross national product (GNP) is similar to that in other countries.

I am not sure that manpower planning and wage controls are the answer. As a matter of fact, right now the Israeli government is trying to relax some of these regulatory mechanisms by allowing a little more freedom to management to operate and increase efficiency. I am not going to elaborate, though I think that the government is not doing it well because it does not provide the right incentives for management. However, it has been concluded that the government is regulating too much and it should pull back a bit. So I am a little wary about this whole question of regulation.

Dr. Finn Kamper-Jørgensen: I think there has been a slight shift in policy in terms of the matter we discuss here. Some years ago people wanted to control the health care sector, and they began to develop the appropriate instruments in my country [Denmark]. Today, after a 5-year, very hot political debate, more and more people focus on those societal demand factors that create diseases. That is why I stress it here.

Five years ago occupational health was not discussed at all in my country. Among other things, the frequency of disability pensions was rising so fast that a lot of people began studying that phenomenon. It led to a lot of other studies of production and production possibilities and how production took place.

This came to the attention of the media. Within a 5-year period, a situation has been created in which many people think that one of the places where we can obtain not only health gains but also a bit of cost control is in the labor market—the philosophy being that patients are generated in the society which initiates the demand for health services.

I am only reflecting the general political opinion of my country. A couple of months ago we had a new law regulating occupational health. It has provisions that control many things in industry. Two days ago I heard on television that the Norwegians have proposed an even tougher law. For example, they talk about controlling conveyer or assembly line production in a rather tough way. Whether or not this is going to be passed by Parliament I cannot tell you, but at least the Scandinavian discussion focuses mainly on the disease-generating processes in society.

But I would say that there are two factors. We both study the demand side and look carefully at those forces I just described, and of course we try to regulate what is going on in the health sector through health planning and other methods. The focus, at least in Denmark and other Scandinavian countries, is a bit different from that of the Americans.

MR. DERICK FULCHER: I do not want to add a great deal to that. I go along with this idea that supply creates its own demand and therefore one ought to think about regulating supply.

But let me mention two things. Recently it was pointed out that for the cost of operating the three open-heart surgery units in Bogotá, Colombia, one-fourth of the children in Bogotá could be given a free pint of milk a day. In Addis Ababa, Ethiopia, the cost of funding a new teaching hospital was just about equal to the annual health budget for the whole country.

When developing countries seek to emulate medical achievements of industrialized countries, the mistakes they can make are obvious because you can point to the sort of thing I have just mentioned. What worries me is that industrialized countries may be making precisely the same sort of mistakes but, of course, they are concealed and unlikely to be obvious.

It seems to me that regulating supply is essential. But probably what is even more important is getting a proper balance of its mix.

DR. STUART SCHWEITZER: Coming, as I mentioned before, from a labor-economics background where I had some familiarity with manpower and manpower training programs, I have one question. We have tried in the United States to institute training programs, educational subsidies, and so forth, for teachers and engineers, with glaring failures in our ability to predict the demand for those two professions especially. I am wondering whether, if we attempt to regulate the supply of physicians, we are going to be any better at controlling the supply to meet some estimate of need or demand or whether we are going to wind up in an even worse fix. I think that question should be addressed to countries which have tried manpower planning. Are we confident that the tools exist for making these kinds of planning forecasts?

DR. JOSEPH NEWHOUSE: I would like to add a question for countries represented here other than the United States. It is reasonably clear that factors other than supply affect demand. (The contrary view implies that if one cut back supply, there would be no visible manifestations of excess demand.) However, if demand has a life of its own—apart from supply—a reduction in supply would mean that demand is somehow rationed by factors other than price. There is evidence from the Enterline studies in Montreal, for example, that indeed there was rationing when prices fell.

Waiting lines for appointments practically doubled after the price for ambulatory care was reduced.

My question is, what evidence is there from other countries that some kind of rationing did appear when price was reduced, or did demand simply vanish into the night?

MME. SIMONE SANDIER: In two words, it does. You can see that in some local areas. You have no doctors or hospitals. You have a demand perhaps, but you have no utilization and you have no cost.

DR. PAUL GERTMAN: In addition to rationing the supply of physicians, I think we need to change the paradigm of what they do. In 10 minutes, a doctor today can order $10,000 worth of tests in one of our university medical centers. This is difficult to control through any of our regulatory devices. I think we have to decide whether we want physicians to optimize for society or maximize for individuals. As long as our society says that the physician is to maximize for individuals rather than to allocate or optimize for groups of people, controlling the number of doctors is not going to control costs, with more technology available every year—not when the physician can sit down with his pencil or the telephone and order unlimited expensive tests.

DR. BARNOON: It is quite obvious that ethically the doctor's role is to optimize for the patient. It is the planners', the economists', and public health people's role to optimize for society and to supply the physician with the equipment and facilities necessary to do this. Thus, if he has no facilities in which to do open-heart surgery, he simply will not do open-heart surgery. It is society's role to decide first of all, whether open-heart surgery is a procedure that society can take on itself. But once we introduce open-heart surgery or a dialysis unit, it is the physician's role to provide the service if he thinks that a patient needs it.

DR. KAMPER-JØRGENSEN: It is question of relationship between demand and supply. An example is abortion because the demand is there. In Denmark before 1973, there was a liberal abortion law, but it had certain restrictions. After 1973 the restrictions were removed. Within a 2-year period there was an increase in abortions from about 13,000 to 28,000.

Maybe in this country you will not believe that the practice was to put the woman in the hospital for 3–5 days and perform the abortion there. Everybody looked at what would happen if the demand for abortions increased. Initially, the hospitals and specialists asked for more staff, more beds. What happened in the system dynamically? The politicians refused to increase the budgets for the departments of gynecology, but by law hospitals have to perform those abortions.

The first stage in that process was a paralytic one where the doctors requested more money, more staff, and so on. But they did not get these things. The bright ones said, in the United States abortions are performed on an outpatient basis. They studied the results in terms of complications and other things and published these findings.

Then came the next stage, which I call the intermediate one—the initial change of technology in a fixed supply situation—where you have the old system and you are beginning to do something new within the health care setup, namely, changing from inpatient to outpatient performance.

The third stage, which is soon going to be implemented, is that almost all abortions will be performed on an outpatient basis.

During the first stage, the paralytic one, one rationed by means of queuing up people with other diseases. In later stages, equilibrium in demand and supply will take place due to changes in technology and organization.

What I conclude from this is that there is a process that takes some years that, at least in Denmark, says no to increases in budgets. There will then be a process where the professionals try to find out something about priorities and how to handle the situation. This is just a special case of relationships, at least in my country, between supply and demand.

Dr. Stuart Altman: The one thing that I ask myself is that if we, in this country, are unwilling to tax ourselves at the time of medical use in the form of coinsurance, then do we have to go down the road of unlimited increase of expenditures, or should we institute some artificial brake in the system?

Do we have to go down the road that Dr. Gertman spoke of, where you essentially give to the physician a blank check and say the patient wants it, you are trained to use it, here is a check, you just write in the amount—and do not write it in dollars because that will bother you, but write it in Sanskrit in the form of tests so that you feel as though all you are using are resources and not dollars.

Do we have to go down that road or are we forced at some point to say if the community will not accept a coinsurance rate—and I am not sure that that debate is completed yet—then we must institute a regulatory system which will limit the flow of dollars to the health sector and free up resources for other human service needs. That seems to me a tough and fairly critical question.

Dr. Gordon Hatcher: You should not discuss control methods in the abstract, regardless of existing levels of supply. Instead let us say we are talking about cost controls after we already have attained a level of one physician service per 1000 people per year—or 20; or we are talking about controls after we have three acute, general hospital beds per 1000 people per year, age- and sex-adjusted and so on, as opposed to 10 or what have you. Certainly there are "real" biological levels of demand that will fluctuate, say, with an influenza epidemic. But in most of the advanced countries we are beyond the levels of supply of medical resources where patient demand can cause a real shortage if we eliminate all coinsurance. Therefore, the physician, the hospital administrator, or the system has the choice to expand or contract services in various ways.

I do not think we will control costs solely on the supply side or on the demand side or by any single approach. We must—and I am sure this conference outline suggests this—look at a mix of supply constraints which certainly are the easiest controls to manipulate at the level of services that we already have.

In Canada the trouble has been that we came to this conviction when we already had built four new medical schools, doubling the annual output of physicians, and we had hospital beds "coming out of our ears" before we decided on universal hospital insurance.

I think that the physician really is the key to cost control when you get above a certain level of service. To bring pressures to bear on physicians to do the right thing, to make the right judgments in terms of priorities, and so forth, we need to educate physicians on social priorities, which is not happening. I think we also have to make physicians partly responsible for the increased cost and increased utilization, which several Canadian provinces have attempted in part, but we are coming to it very late. This applies mainly to some large provincial health insurance programs that have not guessed accurately and predicted the cost of utilization increases. Most provinces have been able to estimate utilization levels accurately even though their negotiations with physicians are usually on price only, and not on volume. Thus they are still left fairly open-ended. These small provinces feel utilization is pretty well controlled by supply constraints and control of aberrant practitioners. I do not know whether Bill Mennie wants to comment on this.

Mr. William Mennie: I would say that we certainly have to look at this thing from both the supply and the demand sides. I tend to look at the supply side as being our short-term and immediate problem. The demand side seems more of a long-term approach as has been mentioned in the paper from Denmark. We are becoming more interested in this kind of approach in Canada and we probably will be talking about it in a later paper.

I will also be talking about short-term, supply side constraints which have become acutely necessary in Canada, both in the field of hospital beds and in the supply of physicians.

But further, we have to remember that we are talking about restraining the supply of high-cost services. We have to think also in terms of lower cost alternatives as substitutes. For when we start restraining the higher cost elements, then we can build in our lower cost alternatives as substitutes rather than as add-ons. If we start to develop others areas such as home care, ambulatory services, nursing home care, and so on, without any supply constraints on the high cost of physicians and acute hospital beds, we are just going to be in further trouble. But if we get a judicious mix, maybe we will get somewhere.

Dr. Josef Van Langendonck: If you hear these health people talking together, it seems as if health were something completely different. In other matters, demand is said to create the supply and in health, supply is supposed to create the demand. This seems ultrasimplified. I am not too sure that health is really so much different. It is different, of course, but no more so than other things. The difference between health and such things as transportation and food is not larger than the difference between food and transportation. The laws of supply and demand are different in their way of operation from one kind of commodity to another. This does not seem to bother economists, except when the difference is between health and other commodities. I suggest a discussion on cost containment in general terms and not about supply and demand in health as something special.

Dr. Irving Leveson: I think that, in the long run, we are going to have to place primary emphasis on some form of supply control, but I want to hold off discussion of the form between controlling facilities versus manpower versus dollars. There are several major reasons for this.

The first is that there are very strong public preferences that we are not going to be able to disregard for any extended period in favor of comprehensive financing, risk reduction, etc. When we talk about supply control, the problem is that the people who have to exercise controls in a democratic society are ultimately the demanders.

If we continue trying to solve other problems in the health area so that we use nursing homes for housing and income maintenance and we put all sorts of social problems into a mental health delivery system and so on, the results are limitless. We will hear a lot more about the environmental aspect.

A basic public education is required about the way in which resources might be used so that we can set our social priorities in ways that are likely to be more effective in dealing with the fundamental issues. For that reason we are likely to place a good deal more emphasis on supply controls in the future. But it has to be something which is done not just in reaction to costs but with some broad-based understanding of what the alternatives are.

Dr. Newhouse: The reason I brought up the issue of whether demand is real or merely a creature of supply is to try to discover at an early stage whose preferences count in this game, whether we make a working assumption that this sector will proceed with the idea of consumer sovereignty or whether consumer sovereignty is merely a fiction because the doctor dictates resource allocation on a *tabula rasa* of the consumer.

If demand is a real phenomenon, then I think there is a presumption that consumer preferences are relevant to resource allocation. If, as Dr. Schweitzer says, the market is not going to be used as a mechanism for eliciting preferences, then I think the issue becomes what mechanism is used to elicit those preferences. I look forward to discussion at this conference about what countries are doing, if anything, to elicit preferences and also how much use they are making of the market.

Dr. L.M.J. Groot: In the idea of opportunity costs, the problem is that all countries want to contain hospital or health care costs because health care costs are increasing unreasonably. But if you cannot put priorities ahead of the population, then it is very difficult to contain costs.

In the Netherlands, we have reached 9 percent of the GNP. Probably we will have reached 11 percent by 1980. The government has made a decision that we should curtail health care costs in a great effort to diminish collective spending. It has given the people a choice: They can have more collective spending, but they will have more unemployment.

We have a socialist government, and socialist governments are very eager to spend in the collective sphere. In this drive for containment in collective spending we have to contain health care costs. But note that the objective has been set for the people. We established a forced ceiling of 8 percent of national income but already we have arrived at 9 percent. To give an example, the specialists and the pharmacists in our country refrained from taking an increase in salary this year because of this option.

Dr. Gertman: I would like to raise the question of where these increases in costs are going. In my experience, even with the extensive technology and capital facilities we have in Boston (which has some of the highest cost rises in the hospital sector), most of the cost rises in urban areas have gone into middle-class, lower middle-class, and lower-class employee wage increases. It is not so much physicians or companies that make the technology who have benefited, but rather we have a huge income transfer system operating for the benefit of our lower middle-class and lower-class employees. We used to exploit the poor who worked in the hospitals. Now we pay better wages and use more lower-level personnel than we ever did before. I think that this may be the major "cost-increasing" factor in the future, at least in the United States.

Mrs. Dorothy Rice: I think we have to go back several years to get some perspective on this. In 1965, when the Medicare program became law in the United States, health care expenditures amounted to $39 billion or 5.9 percent of our GNP. By Fiscal Year 1976, the nation spent $139 billion or 8.6 percent of GNP.

What has happened during this 10-year interval has been both interesting and instructive. The first section of the Medicare law, passed in 1965, states that the government shall not interfere with the practice of medicine. This mandate was interpreted literally. The law provided for payment of medical care services received by the population aged 65 and older by reimbursing both hospitals and physicians—the former on the basis of costs, the latter on the basis of charges. However, there were no incentives for efficiency and economy. Consequently, there was an increase in demand for services by the aged together with an escalation of medical care prices and expenditures.

The data show that there was some rationing of hospital beds—there was an increase in the use of hospitals by the aged at the expense of the under age-65 population. This was largely due to the implementation of the Medicaid program which paid for health care for the poor. An increasing number of states took advantage of the open-ended commitment of the federal government to match expenditures for medical care for the low-income members of the population. Along with those already eligible under Medicare, disabled persons and those suffering with terminal renal disease who were under age 65 became eligible for Medicare benefits.

Public policy in health care financing has been schizophrenic: On the one hand, we have provided a financing mechanism for these selected population groups resulting in increased public expenditures; on the other, we are trying to place some limits on these expenditures by using various methods such as reducing the number of persons eligible for Medicaid or reducing benefits at the state level.

There is much for us to learn with respect to developing useful mechanisms that will impact on expenditures for health care, including the Professional Standards Review Organization (PSROs) and Health Maintenance Organization (HMOs). There has been no mention of prepaid group practice or HMOs and the role that this alternative method of delivering health care might have in the control of costs and expenditures for care.

Another point to be emphasized is that we cannot separate the health care sector from other parts of the economy. Let us review what has happened in the United States. Both Medicare and Medicaid programs became law in the middle 1960s after a stable economic period. Although medical care prices were increasing at a more rapid rate than were prices for all goods and services at that time, we were not concerned because the rate of increase in medical prices was relatively low. However, there was a substantial rise in medical care prices in the second half of 1966 which stimulated a report to the President from the Department of Health, Education, and Welfare on medical care prices. Many conferences were held thereafter to deal with this new phenomenon.

The Economic Stabilization Program (ESP) began in August 1971. While the increase in prices in the health sector was a contributing factor, it was only a part of the rapid inflation occurring in the general economy. At that time, limits that were set on the charges for hospital and medical services did result in slowing down the rising expenditures for medical care services. However, as soon as the limits were removed in April 1974, medical care prices rose again because both hospitals and physicians were waiting for the controls to be lifted. At the same time that the growth in the economy slowed down, the inflation in the medical care market continued. This resulted in an increase in health spending in one year—from Fiscal Year 1974 to 1975—from 7.8 percent to 8.4 percent of the GNP of the United States.

DR. GROOT: My data was GNP.

MRS. RICE: Then you are higher than we are.

DR. GERALD ROSENTHAL: I think it might be useful to draw one more lesson from Mrs. Rice's comments, that the dynamic for rising cost does not change necessarily when you put a lid on it. As Dr. Groot noted, the Netherlands instituted an 8 percent ceiling and very soon it was 9 percent. So it is clear that the nature of the lid merits some discussion; it is not always desirable to leave to the system the responsibility for working out its adjustments with the simple placement of a lid.

But I do think that from the simple, what I call the "hands up," method of cost containment, "Let us decide it is 9 percent and get out of the way and see what happens," we have learned what happens. It finds a way to call 12 percent 9 percent in the short run. You can do it for a little while. You can do almost anything for a little while. The system is perfectly prepared to be cooperative about anything for 6 months. After that, whatever dynamic is there, is there.

DR. ALTMAN: Mrs. Rice, you asked why the health costs went up so much faster than the other costs. We have given health practitioners essentially an umbrella which says, when it rains, you stay dry and when it is dry, you stay dry. When the economy turns down, you stay up and when the economy goes up, you go up even faster. It is not a bad business to be in. That is why we have so many health economists, all ex-labor economists I might add.

Dr. Barnoon: The example that Mrs. Rice gave, that of putting the lid on in the form of price or wage controls, is just a postponement. It is a cost postponement rather than a cost control.

The same situation exists in Israel. What we are trying to do now, for example, is to cut down on new construction. This is just a postponement; it is not a cure. This year the total budget is going to be lower but next year it is going to be double, and in the long run it will even out.

But I want to go back to a statement that Dr. Gertman made previously concerning the production of the physician in relation to cost. What are the components of the cost from the production side? What are the health services that are the largest contributors to cost?

I recall a comment that Dr. Jorgensen made that if we look at some phenomena which are external to the health sector, we may affect outcome and achieve a real improvement in health much faster than if we concentrate on those very complicated medical problems that require high technology, but whose yield in terms of improvement of health is very low.

Dr. Alan Maynard: I would like to make several points. First, I find the discussion very interesting when it comes to GNP. The Americans and the Dutch are spending so much while our [United Kingdom] percentage of GNP spent on health care is very low and in fact declined slightly in 1973 to a figure just below 5 percent.

Earlier, there was a question about manpower forecasting, its methodology, and the experience of other countries. The experience of the United Kingdom in manpower forecasting has been disastrous. It has always been wrong, but largely because we ignore the brain drain and our methodology is excessively naive. I will say more about that later on.

Another point that was raised was the question of the demanders, who the demanders are, and whether there is consumer sovereignty. The point I would like to make here is that the demanders may not be the best judges of their own welfare. Even if they are, we might not want to distribute the utilization of health care facilities on an ability-to-pay basis. So that brings in the distributional problem.

The final point I would like to make is that outside the United Kingdom, low-paid workers in hospitals had their incomes increased and this accounted for much of the increase in the cost of hospitals. I think the solution to that, if you want a solution, is to have a labor government like ours where such groups have not had large increase!

MR. CLAES ÖRTENDAHL: I can quote some of the figures of how cost increase over the years from 1963 to 1973 is composed. About 30 percent of the cost increase for health care is due to better quality and quantity of health care, while about 70 percent of the total cost increase is due to rising salaries. I think this very much underlines the point about the situation in Boston. I think it is also important to say that we are now paying the debts for the misuse of female labor over a long period of time. It is a matter of emancipation that we are discussing when we are worried about the rising cost for health care.

DR. ROSENTHAL: The solution, of course, is a better accounting system. If we charged all that to other parts in the system, the health percentages of the GNP would go down to 4 percent.

DR. FELIX GUTZWILLER: Just a short comment on this last issue with regard to wages: It seems to me that a major reason why many European social democratic parties oppose the very notion of cost "explosion" is precisely their belief that this increase in cost can be ascribed partly to a long-overdue raise in the wages of the "lower echelons" of the health labor force.

Accordingly, there are quite a number of political entities in Europe who feel that the proposed cost containment measures very often threaten to reverse some of these beneficial wage increases, particularly in regard to women. Am I correct that in the Swedish County Councils the proportion of women employed is something like three-quarters of their whole labor force?

MR. ÖRTENDAHL: Yes, approximately.

DR. GUTZWILLER: The recent catching up of women's wages is the Council's huge increases in expenditure. I think it makes a point that should not be overlooked. To many people, the notion of a cost "explosion" is questionable on these grounds.

DR. ALTMAN: Dr. Rosenthal, let me just comment that any program can control something temporarily. I do not quite agree that before the federal government stepped in, health services in this country were underfinanced because people had to pay for some of these services out of their own pockets. Some providers of these services, it is true, received relatively low pay, and some providers gave services to some patients at no cost, and less resources were available for health care.

Then the government came in with massive amounts of money and paid what the providers said was the full cost. One big impact of that was for the workers in the profession to have a major increase in their earnings, as well as providers having access to more resources than they had before. You have created a new artificial equilibrium, which is not necessarily better than before, it is just different. That becomes the status quo and now it cannot be changed.

DR. ROSENTHAL: I would advise those who think that changes cannot occur to consult a member of the faculty of the City College of New York which decided that it had bumped its expenditure ceiling about a week before the final exams and released the faculty, the staff, and the employees and shut down until the beginning of the next fiscal year. I think this drives home a point but in a way that probably is illustrative for those of us in the health business.

DR. LEVESON: I think that, at least as far as the United States is concerned, the question of catch-up wage increases pretty much ran its course a few years ago. For instance, indications that nurses' wages were below those for comparably skilled persons in other sectors have disappeared. We moved toward a social minimum wage and towards catch-up increases for women.

The huge increases in cost after the expiration of the ESP in April 1974 make it very explicit that, in the long run, we have to deal with a cost escalation problem which is not going to disappear even after we reach high salaries for some groups in health care compared to the rest of the economy.

Second, there is a tendency to describe the problem as one in which it is changes in the degree of insurance coverage that are producing inflation. To some extent, historically, that is correct. But we are now in a world with a continuing high level of insurance coverage, and the high level has much broader effects than permitting the kinds of wage changes that we are talking about.

There is the fundamental problem of which technology we are going to adopt in a world where technology is continuously changing, and in which we have a kind of "blank check" method of financing. That is why I think we need to deal with the supply aspect as well as demand if we want some kind of broad-based financing.

DR. HATCHER: I would like to go back to the comment about who benefited from the increase in health expenditures. Dr. Altman said that it was the employees. We have had the Swedish example also and certainly the example of nurses in Ontario.

But having spent half of my professional life in this country and half in Canada, I think we have to look at what impels the politicians here not to enforce cost controls or to use tools that, in fact, often are readily available, or what, as in Britain, impels him to do so.

If you ask the people who were the beneficiaries of Canadian health insurance and British health insurance, they would not say that the only beneficiaries were those who got increased wages. They would say the general public, especially the low-income group, benefited. This group was the one that, in Montreal, was shown to have received something like 2 services per 1000 people per year before universal Medicare and then got 5, whereas those who were getting 7 dropped down to 5. Also, there is the freedom from fear of bankrupting cost: It is now possible in Canada to call a doctor in the middle of the night rather than wonder whether to wait until morning to see if the earache goes away.

I think that the politician has people in the rural areas saying, "Look, you want to close our hospital" or "You say we have too many doctors, but we do not have a doctor when we need one."

Unless a country like the United States shows more equity in the distribution of its health care services, it is not going to have the political support for the politicians to impose the kind of painful cost controls that will then force the reallocations within the system and enable them to stand toe to toe with the doctors in Boston and say, "No, we are not going to have more open-heart surgery. Yes, we are going to have more pediatric care for children," and so on.

Dr. Jan Blanpain: I would like to come back to Dr. Altman's comment that he believes that changes are possible. All countries that are now considering limits on supplies of doctors, hospitals, costly technology like scanners, etc., are starting to say so at the moment when those supplies are already beyond reasonable limits.

The intentions are clear and the laws are on the books. In Belgium, we already have stringent laws. But the mechanisms are not there to cope with a powerful hospital industry, to cope with organized medicine. I am not so optimistic about the fact that reducing existing powerful social institutions will be that easy.

Dr. Malcolm Taylor: I was just going to say almost the same thing. To attempt to reduce the oversupply that we have in Canada in both doctors and hospital beds, considering the political repercussions of recent attempts to close a half a dozen of those, is not a short-term problem. It is going to be a long-term problem. The inventory is going to last for a long time.

PART II

PRICING AND COST SHARING

7

MEDICAL CARE EXPENDITURE: A CROSS-NATIONAL SURVEY

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What determines the quantity of resources a country devotes to medical care? The question is important because of the presumed consequences of medical care expenditure for well-being, although the nature of the link between medical care services and well-being is not well understood. A substantial literature on this question is devoted to comparing and assessing the institutional settings for the delivery of medical care service found in various countries [for example, (*1–3*)]. Variables such as the degree of centralization of medical care delivery and the method of reimbursing providers are of central importance in these studies.

Rather than using these variables, this study began by examining the relationship between a country's medical care expenditures and its income. As we shall see, this relationship yields inferences about the link between medical care and well-being and possibly also about the relationship between institutional settings and resource allocation.

An Estimated Relationship Between Medical Expenditure and Income

Table 1 shows per capita medical expenditure and the percentage of Gross Domestic Product (GDP) spent on medical care in recent years for 13 developed countries for which I could obtain data.[3] The sample was limited to developed countries in order that the prevalence and type of disease and the amount of medical knowledge would be approximately constant.

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[1] I wish to acknowlege the assistance of Ms. Sharon Yamasaki in collecting the data and the comments of my colleagues, Will Manning, Patricia Munch, and Charles Phelps, as well as those of Stanley Masters on an earlier draft.

[2] The research reported herein was performed as part of the Health Insurance Study, a grant from the U.S. Department of Health, Education, and Welfare, Washington, D.C. The opinions and conclusions expressed herein are solely my own and should not be construed as representing the opinions or policy of any agency of the United States government.

[3] The sampling frame was taken from Western Europe (the members of the EEC, EFTA, Greece, Ireland, Spain), the United States, Canada, Japan, Australia, Israel, and New Zealand. The latter were the non-European countries with per capita GDP above $1,500 in 1972 (excluding the Libyan Arab Republic).

TABLE 1

PRIVATE AND GOVERNMENTAL PERSONAL MEDICAL CARE EXPENDITURES PER CAPITA AND PERCENTAGE OF GROSS NATIONAL PRODUCT SPENT ON PERSONAL HEALTH CARE SERVICES, SELECTED YEARS

Country	Year	Per Capita GDP (US$)	Medical Care Share as % of GDP	Per Capita Medical Care Expenditure (US$)
Australia	1972	3,769	5.80	219
Austria	1971	2,747	5.46	150
Canada	1971	4,317	7.02	303
Finland	1972	2,869	5.31	152
France	1970	2,851	6.40	182
Germany, Federal Republic of	1968	2,246	6.07	136
Greece	1972	1,374	2.51	34
Italy	1972	2,164	6.12	132
Netherlands	1972	3,437	6.78	233
Norway	1972	3,889	5.18	201
Sweden	1971	4,431	7.00	327
United Kingdom	1972	2,742	4.45	122
United States	1972	5,551	6.51	361

SOURCE: For per capita GDP, United Nations, *Yearbook of National Accounts Statistics*, 1973, Vol. III, Table 1a. For medical care share, United Nations, *Yearbook of National Accounts Statistics*, Vols. I and II, table of individual country used for total GDP (denominator of share), Private and Governmental Final Consumption Expenditure on Health and Medical Care used for numerator of share, except for Canada. France, the Federal Republic of Germany, and the Netherlands. For these (as well as other) countries, data on either private or public spending were missing from the U.N. publication. Medical care spending (the numerator) for Canada, France, the Federal Republic of Germany, and the Netherlands were taken from (*4*), pp. 59, 179 (medical research excluded), 241, and 274. The last column, Per Capita Medical Care Expenditure, is derived by multiplying GDP per capita and the share of medical care. Data on Japan, which were included in earlier drafts of this paper, have been excluded because no data were available through the United Nations publication and it was not clear that the data available (from the Japanese Medical Association) were comparable.

TABLE 2

REGRESSION OF PER CAPITA MEDICAL CARE EXPENDITURE ON GDP PER CAPITA[a]

Equation	Sample	Intercept	Coefficient and *t*-statistic	R^2
(1)	Including Greece	-60	0.0788 (11.47)	0.92
(2)	Excluding Greece	-51	0.0763 (9.29)	0.90

[a] The functional form is linear.

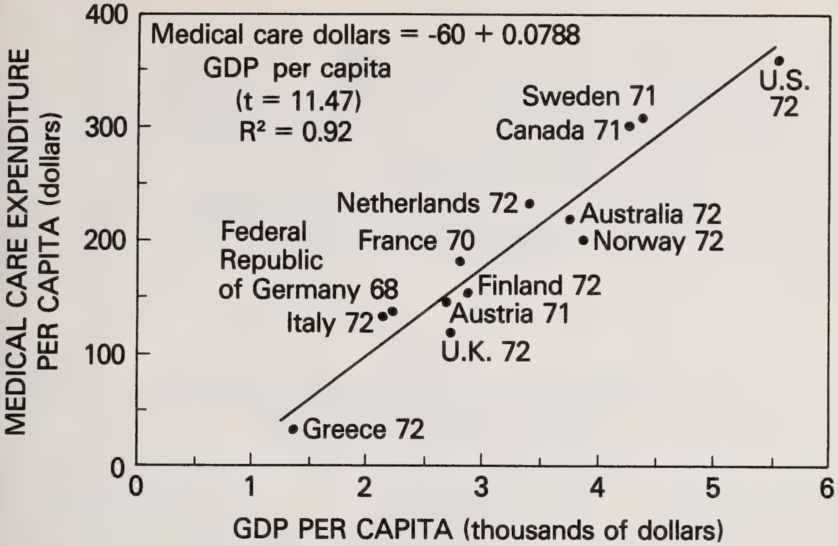

Figure 1. Relationship between GDP and medical spending in 11 countries (recent years). Data from Table 1.

Table 2 and Figure 1 show the results of regressing per capita medical care expenditure upon per capita GDP. Because Greece has a markedly lower per capita GDP than the rest of the sample, equations have been estimated with and without the Greek observation. In spite of well-known problems in making international comparisons, over 90 percent of the variance in per capita medical expenditure in these countries can be explained by variation in per capita GDP![4]

Data reported in Kleiman (5) for a different set of 16 countries (including much poorer areas) also support the finding that income can explain the great majority of variance in per capita expenditure. The R^2 between per capita health expenditure and per capita Net National Product is 0.96 for Kleiman's sample.

The magnitude of the change in medical care expenditure as GDP changes is also of interest. Table 3 shows the implied elasticities of medical care with respect to GDP at various levels of GDP. Note that the elasticities through the observed range substantially exceed 1. As a more rigorous test of the hypothesis that the income elasticity exceeds 1, I have regressed the medical sector's share of GDP on GDP. To maintain a functional form consistent with the well-fitting linear relationship in Table 2, the first line of Table 4 and Figure 2 show results using the reciprocal of GDP per capita as the explanatory variable.[5] While the fit using the share of GDP as a dependent variable is not as good as when the absolute level of expenditure is the dependent variable, the coefficient of GDP per capita is significantly different from zero at the 1 percent level (two-tail test). The next two lines of Table 4 show that the result that the share of GDP in medical care rises with GDP is robust against changes in functional form; the fourth line, however, shows that the result is affected if Greece is omitted from the sample; while the sign is still negative, the coefficient is no longer significant at conventional levels.

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[4] Problems in making international comparisons are discussed briefly in the appendix.

[5] Dividing both sides of the equation shown in Table 2 by GDP per capita leads to the reciprocal form.

TABLE 3

ESTIMATED INCOME ELASTICITIES FROM THE RESULTS IN TABLE 2

Per Capita GDP Level	Elasticity Based on Equation 1	Elasticity Based on Equation 2
3416 (mean)	1.31	1.26
4000	1.24	1.20
5000	1.18	1.15
6000	1.15	1.12

TABLE 4

REGRESSION OF SHARE OF GDP DEVOTED TO MEDICAL CARE ON PER CAPITA GDP

Sample and Functional Form	Intercept	Coefficient and t-statistic	R^2
(1) Including Greece, reciprocal (1/GDP)	8.16	-6883 (4.00)	0.59
(2) Including Greece, linear	3.40	0.7×10^{-3} (2.77)	0.40
(3) Including Greece, log-linear	-2.70	0.55 (3.52)	0.52
(4) Excluding Greece, reciprocal	7.24	-3798 (1.36)	0.14
(5) Social Security Administration sample of seven countries, 1969, reciprocal[a]	8.66	-7131 (4.00)	0.76

[a] The dependent variable is share of GNP; the explanatory variable is per capita GDP in 1969 from the *Yearbook of National Accounts Statistics*, Vol. III.

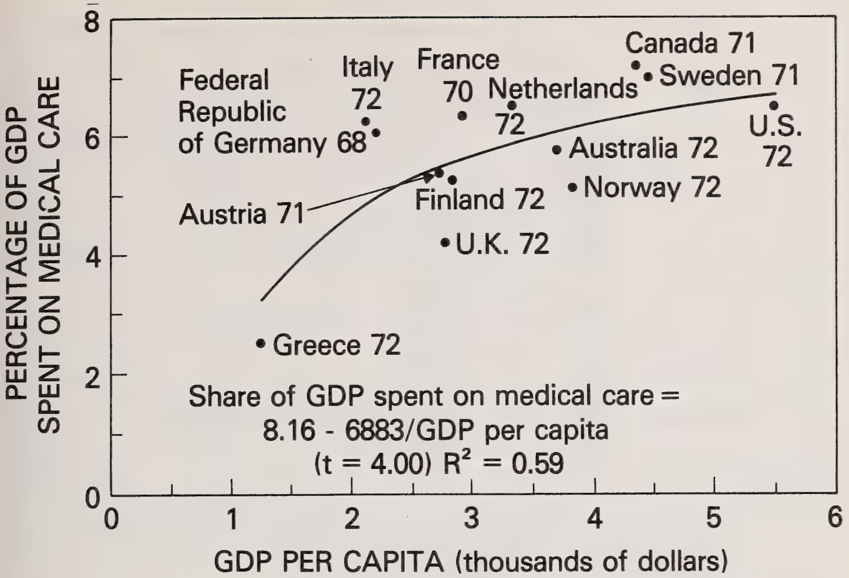

Figure 2. Relationship between GDP and share spent on medical care in 11 countries (recent years).

The last line of Table 4 shows results using data on the share of the GNP devoted to medical care in 1969 in 7 of the 15 countries, as estimated by the Social Security Administration.[6] These results are included because the comparability of the figures is better for this sample than for the entire sample. For these countries, the coefficient of per capita GDP is again very significant and R^2 is noticeably higher.

A First Implication: Medical Care as a Luxury Good

The results in Tables 3 and 4 indicate that at the margin, *medical care is a luxury good.*[7] Such a conclusion runs counter to conventional wisdom, but time series data also support this finding. It is well known that for virtually every developed country the share of GNP devoted to medical care has tended to rise over time (*4, 6, 7*:259).

There is a striking contrast between the data presented in Figure 1 for medical care consumption and data on food consumption. Table 5 and Figures 3 and 4 show not only that there is no significant relationship between food consumption and GNP for these countries, but there is

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[6] The sample includes Canada, Federal Republic of Germany, France, the Netherlands, Sweden, United Kingdom, United States.

[7] The income elasticity at the point of means in Kleiman's sample is 1.22, although his sample covers a much larger range of income (*5*).

TABLE 5

FOOD CONSUMPTION

Country	Year	Caloric Intake Per Day	Protein Intake Per Day (Grams)	GDP Per Capita
Australia	1965	3160	92	2119[a]
Austria	1970	3230	86	1932
Canada	1968	3200	96	3329[a]
Finland	1971	2940	90	2473
France	1970	3270	103	2851
Federal Republic of Germany	1970	3180	83	3095
Greece	1967	2900	99	835[a]
Italy	1970	3020	88	1731
Netherlands	1968	3200	85	2020[a]
Norway	1970	2940	82	2864
Sweden	1971	2850	80	4431
United Kingdom	1971	3170	87	2454
United States	1970	3300	99	4799

SOURCE: United Nations, *Statistical Yearbook*, 1972, Table 162; Yearbook of National Accounts Statistics, 1973, Vol. III, Table 1.

[a] Linear interpolation between values for 1963 and 1969.

very little variation in consumption at all. For protein intake, the highest country exceeds the lowest country by only a factor of roughly 30 percent; for caloric consumption the figure is only 15 percent, rather than the factor of 10 found in medical care consumption (factor of 3 excluding Greece). Unfortunately, I was not able to obtain data on food *expenditure* for these countries, and it is quite possible that there would be greater variation in expenditure among the countries than in protein intake and caloric consumption. Nonetheless, it is difficult to believe that the income elasticity of food consumption across these countries exceeds 1, the more so since many foodstuffs are traded in international markets, so that prices will show relatively little variation across the countries. In short, the relationship between food consumption and income appears to fit the technical and everyday meaning of the term necessity and is quite different from that for medical care.

Cross-section data from the United States show that *within* the United States, income elasticities for medical care services are very low.[8] The

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[8] Andersen and Benham (*8*), using 1963 survey data, find a sample income elasticity of physician expenditure of 0.4 and a partial elasticity of 0.2. Newhouse and Phelps (*9*), using the same data source, find a partial elasticity of hospital and physician expenditure of around 0.1. Phelps (*10*), using 1970 survey data, estimates partial income elasticities around 0.1 or below. Published National Health Survey data for 1968 imply a negative relationship between hospital days and income (*11*), and published data for 1973 show a negative relationship between physician visits and income, although the curve is essentially flat about $5,000 income (*12*). These latter results do not control for health status, but the Newhouse and Phelps (*9*) estimates, as well as the Phelps estimates, do include health status measures, thus mitigating against the possibility that the across - individual results are not comparable with the across-country results because of a much stronger relationship between sickness and income at the individual level.

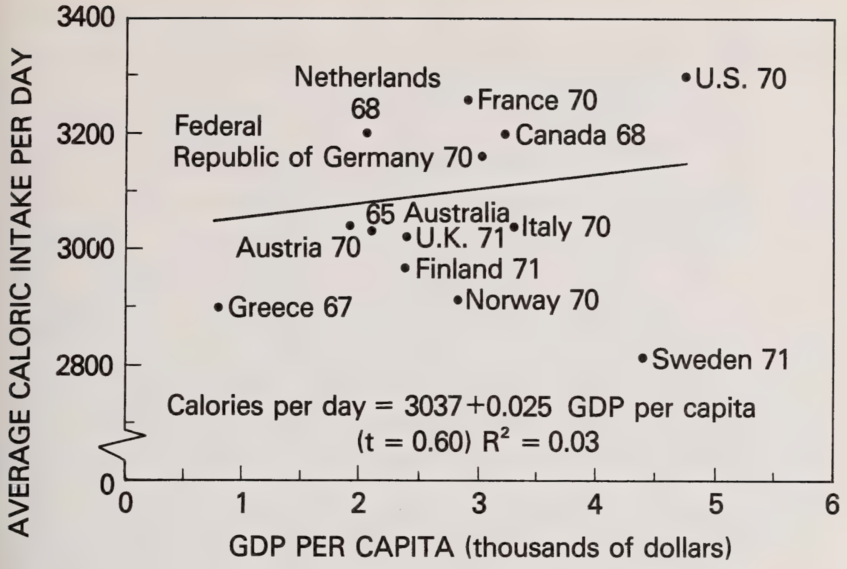

Figure 3. Relationship between daily caloric intake and GDP per capita, 11 countries, 1970 (recent years). [Data from *United Nations Statistical Yearbook, 1972,* Tables 162 and 188.]

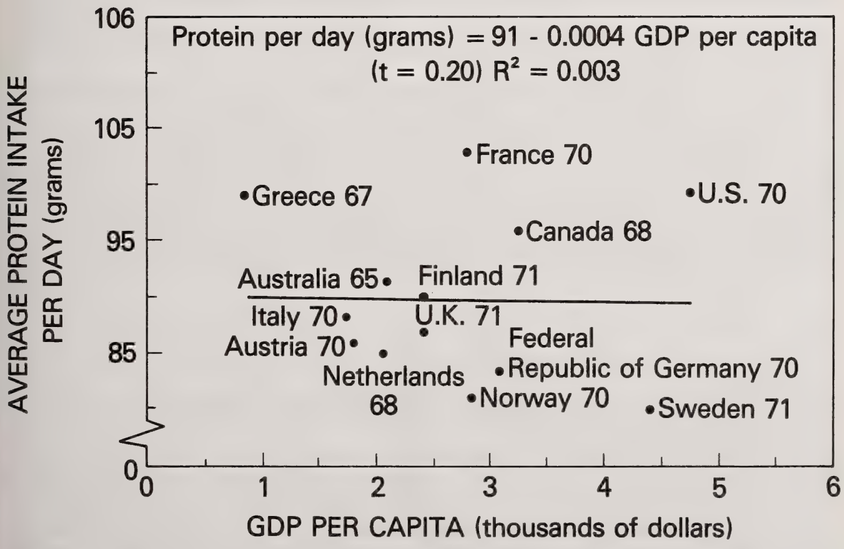

Figure 4. Relationship between daily protein intake and GDP per capita, 11 countries, 1970 (recent years). [Data from *Unted Nations Statistical Yearbook, 1972,* Tables 162 and 188.]

same is probably true within other countries as well.[9] How can the discrepancy between the within-country cross section and the international cross-section results be explained?

One argument that might be made is a so-called "norms" argument. Physicians within a country might have a certain style of practice, such that they tend to treat patients uniformly, irrespective of income, while these styles may differ across countries. While this explanation has a certain appeal, it is not completely satisfying. First, whatever validity the argument may have, it is incomplete, because physician norms have little to do with whether or not a patient enters the medical care system at all. Second, the norms argument assumes that there is a considerable similarity of medical practice within countries, whereas in fact there may be substantial differences between various regions or between rural and metropolitan areas within the country. Third, the finding that the share of medical care in GDP tends to rise over time cannot be explained by a norms argument, unless the norms change steadily over time. If so, the norms explanation becomes increasingly ad hoc.

A more satisfying explanation is that price is probably not an important rationing factor within many countries at one point in time, whereas it is important between countries and over time. Within many countries, medical care is free to the consumer. Even in the United States, which relies on out-of-pocket payments more than most countries, hospitalization insurance is nearly complete. Phelps and I have described elsewhere a plausible model which predicts that as money price to the consumer goes toward zero, income elasticity will fall.[10] Additionally, there may be public subsidies of the poor (or perhaps price discrimination) so that a small (simple) income elasticity within the country also includes a price effect.

However, when making comparisons between countries, we find that the country faces the full price of medical care services (excepting grants from international organizations that are earmarked for medical care, which are not at issue in the countries under discussion). The same could be said for a time series within a country. Thus, one would expect that income would play a greater role in explaining consumption across

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[9] Although Kleiman (*5*) cites a study by Liviatan that estimates the income elasticity within Israel to be 1.3.

[10] See Phelps and Newhouse (*13*), Equation A.4. As money price goes to zero, the term NPH falls, and with it the responsiveness of demand to income. However, even if money price is zero, there is still reason to expect a nonzero income elasticity; those with higher values of time will tend to be those with higher incomes, and there may be incentives to consume more (or under certain assumptions, less) medical care as the value of time rises. See Grossman (*14*). There also may be complementaries of substitutabilities with other goods that show a positive income elasticity.

TABLE 6

RATIO OF AVERAGE EARNINGS OF A PHYSICIAN TO AVERAGE EARNINGS, SELECTED DEVELOPED COUNTRIES

Country	Year	Average Physician Income	Average Compensation, Employed Person	Ratio
Canada	1972	NA	NA	5.30[a]
France	1973	F129,500	F26,433[b]	4.90
Germany, Federal Republic of	1971	DM115,580	DM17,720[c]	6.52
United Kingdom	1972	£6,794	£1,367	4.97
United States	1971	$42,700[d]	$9.030[e]	4.72

[a] Ratio of average total incomes assessed for tax purposes to average income.

[b] Data on wage per employed calculated from *Europa Yearbook, 1975, A World Survey*, Vol. I; London: Europa Publications, Ltd., pp. 649, 656. The 1972 unemployment rate of 2.37 percent was applied to 1973 labor force data to derive an estimate of 21,343,000 employed.

[c] Reinhardt's figure comes from the Gesellschaft für Sozialen Fortschritt e.V., "Der Wander der Stellung des Artzes im Einkommensgefüge." United Nations data show a figure of DM17,436.

[d] Median income.

[e] Excludes self-employed businessmen, professionals, and farmers.

NA = not applicable.

SOURCES: (4:83, 154, 260) and *Annual Abstract of Statistics*, 1974, No. III, London: Her Majesty's Stationery Office 1974, Central Statistical Office.

nations (or in time series data) than for cross sections of individuals within nations.[11]

If medical care is indeed a luxury and not a necessity, there is an inference about what the marginal unit of medical care purchases. To draw this inference, however, it is important to establish that countries with a larger share of GDP devoted to medical care actually do devote more real resources and do not pay merely the same factors' higher relative prices. I see little reason why the price of capital in medical care should be relatively higher in wealthier countries; indeed, it might well be lower. However, insofar as wealthier countries have higher capital-labor ratios and migration does not lead to equalization of salaries, one might expect higher salaries in the wealthier countries. But is there a more than proportionate rise in medical care salaries as GDP rises (which could possibly account for an income elasticity over 1)? I see little theoretical reason to expect this, and the fragmentary evidence I have found indicates that physicians' salaries rise roughly proportionately with income levels rather than disproportionately. Table 6 shows the ratio of the average earnings of a physician to the average compensation of an employed person for five countries for which I could obtain data. The ratios are remarkably similar across the countries. In fact, the country with the highest per capita income, the United States, actually has the lowest ratio.[12] These data suggest that wealthier countries do not have higher relative factor prices for medical care resources, but are indeed devoting more real resources to medical care.[13]

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[11] Note the similarity with Buchanan's explanation for queues in the British National Health Service; there is chronic excess demand because the individual as a consumer faces a zero price, while the individual as a voter faces the true resource cotst. See Buchanan (*15*).

What, then, are these additional resources buying? The conventional view that medical care is a necessity probably is based on the presumption that the marginal unit of medical care produces an improvement in physiological health. Indeed, many who believe that income should not play a role in allocating medical care resources probably would argue in this fashion; they might respond to the above data that countries have been able to achieve "equity" internally, although it has not been achieved internationally.

Yet there is little reason to believe that the marginal unit of medical care produces an improvement in physiological health. There is no evidence of which I am aware suggesting that Swedes are healthier than Norwegians or Finns, or that Canadians are healthier than residents of the United Kingdom or Australia, despite much higher spending on medical care in Sweden and Canada. For example, infant mortality rates are similar in Norway and Sweden; they are also similar in the United Kingdom, Canada, and Australia.

While the marginal unit of medical care may do little or nothing for mortality and mobidity rates, it well may produce improvements in so-called subjective components of health. Additional resources in ambulatory care may alleviate symptoms (e.g., pain, itching), relieve anxiety, and provide prognostic information. In both ambulatory and inpatient care, additional resources may marginally improve decision making (e.g., an additional test may make a physician 99 percent certain of the diagnosis, rather than 95 percent). In inpatient care, some heroic but costly measures may have little effect on life expectancy in the population, but satisfy a norm (relieve guilt?) that "everything" should be done for an individual patient whose chances of recovery are remote. The nature of these services may well be quite discretionary and they may be consumed in proportionately greater quantities as income rises. Put another way (and oversimplifying), countries that spend more may well buy more caring, but little additional curing.

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[12] If an average figure rather than a median figure were used for the United States, the ratio would be somewhat higher, but the figure is still unlikely to lie in the same range as the other countries.

[13] Of course, to the extent that a higher relative factor price for a physician is based on additional investment in human capital by the physician (e.g., more training), the higher factor price reflects a greater commitment of real resources to medical care.

A Second Implication: Other Determinants of Medical Expenditure

The sample of countries in Figure 1 is small, and data from other countries might somewhat change the results. Nonetheless, the conclusion that variation in per capita income accounts for the large majority of variance in per capita medical care expenditure across developed countries seems unlikely to change. If so, the negative inference may be drawn that other factors hypothesized to affect medical care spending are not of quantitative importance, and that the very simple approach of examining the relationship of expenditure to income may be sufficient.

It may seem surprising that the price paid by the patient and the method of reimbursing the physician are not important. But note that medical care services often are rationed, that is, not supplied by a free market. (For example, hospital budgets frequently are set by a public authority.) Therefore, the unimportance of the price facing the user should not be surprising. One can infer from these results that medical services are rationed in a systematic manner, consistent with the wealth of the country. This conclusion is consistent with the findings of other cross-national studies that do not find price to the user or the method of paying the physician to be of much power in explaining utilization and physician behavior (*2,3*).

It is argued sometimes that centralized control of the health services can keep expenditure lower than a decentralized system. Anderson (*1*), for example, compares the American, Swedish, and British health care delivery systems; the British is the only system of the three with centralized control of budgets at the national level (the Swedish hospital system is controlled at the country level). Additional observations would be needed to establish the validity of the generalization that centralized systems spend less.[14] But if it is true, the data in Figures 1 and 2 place a somewhat different interpretation on it. That the British system keeps expenditure down relative to the United States and Sweden may be due to a bleaker economic picture generally. Moreover, if, as was argued above, medical care at the margin is a luxury good that consists more of caring than curing, a decentralized system may be more efficient at producing caring. Thus, a wealthier country may desire and be able to pay for a more decentralized, but more expensive, medical care system, so that the organization of the delivery system is properly treated as endogenous. This is, of course, conjecture, but the facts described above are consistent with this interpretation.[15]

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[14] Canada, for example, seems to fit the pattern.

[15] It may be objected that centralized control in Britain was established when Britain was a relatively wealthier country and that this is not consistent with the interpretation presented. I do not wish to pretend that other factors (e.g., ideology, personalities of political leaders) do not play important roles in the choice of how medical care services are

Conclusions

Cross-national studies are subject to a great many well-known difficulties. Yet both cross-nation and time-series (within nation) data support the conclusion that the income elasticity of national medical care expenditure is greater than 1. Such a finding is consistent with the view that in the developed countries, medical care services at the margin have less to do with curing and more to do with caring. That per capita income can explain much of the cross-national variation in expenditure also suggests that a country will find methods by which to ration services consistent with its income despite variation in out-of-pocket prices paid by the consumer in various countries or alternative methods or reimbursing the physician.

APPENDIX

Problems in making international comparisons include: (1) difficulty in standardizing definitions; (2) the presence of index number problems in comparing income; and (3) a certain degree of arbitrariness in exchange rate conversions. Definitional errors would tend to be random error and thus lower the measured R^2. Stanley Masters has raised the issue of whether errors in the measurement of GNP, especially errors in exchange rate conversion factors or variation in the amount of household production of medical care, affect the results. Assume that an error in the exchange rate conversion factor (or population size) leads to a multiplicative error that is applied to both the dependent and explanatory variables; the error factor is an independent random variable with a mean of 1. In general, the estimated slope coefficient will be inconsistent, but the inconsistency does not appear to be of quantitative significance for the amount of measurement error (and size of R^2) likely to exist in this case (*16*).

Errors in measurement caused by variation in the amount of household production are somewhat different. It is possible to dismiss such errors if one narrows the question to that of variation in market resources devoted to medical care. If one looks instead at variation in total (market and nonmarket) resources devoted to medical care, the relevant question is the propensity to consume nonmarket medical care from nonmarket income. If this relationship is approximately the same as the measured market propensity, then the total consumption of medical care as a function of full income clearly can be approximated by observation of the market component. If not, the reported results could be changed in either direction.

I am inclined to believe that errors from nonstandard definitions are at least as important as the second and third sources of error in this instance; in that event, the claim that income can explain most of the variance is conservative. Note also that if errors in the measurement of GDP are present, the coefficient in the shares regressions in Table 4 are inconsistent upward, yet the coefficients are still negative.

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organized. But it is important to note that the wealthier countries have not adopted the British model, while Britain has chosen to remain with a centralized service. The data in Table 1 also suggest that the recent travails of the British National Health Service may well stem from the relatively low per capita income of Britain rather than the orgainizational features of the Service.

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8

ROLES OF COST SHARING IN HEALTH CARE COST CONTAINMENT IN BELGIUM

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My contribution revolves around three points. The first is the question of why one must contain health costs at all. The second is how to decide how much to spend for health. The third is how to contain costs if one decides that that is what one wants to do.

On the first point, I think a layman may look at the health scene and be astonished that people are embarrassed that so much of the Gross National Product (GNP) goes to something so desirable as health. We should be very glad that people do not spend more of their money on alcohol, drugs, or restaurants.

I first would like to make a distinction. We can speak about containing costs while maintaining services at the same level. That is called management. Everybody tries to do that and everybody will be happy if he can produce the same services at lower costs (except those who make a living out of these costs). But the really serious aspect is the attempt to reduce costs by reducing the service. That is completely different, and I suppose is what we are talking about. The other aspect would not be so controversial as to convene a conference.

I am opposed to the concept that health care should "take" so much of the GNP and that private industry should "contribute" so much to it. The little I have learned from my courses in economics is that you add the two together in computing the GNP. You cannot say that you deduct the one from the other.

It seems to me that the product of the health care industry is at least as valuable as any other product made by any other type of industry; maybe more, maybe just as much, but certainly not less. The health care industry, like any other industry, provides an income for the people who work in it and provides a market for a lot of industries that produce goods that are used in that industry.

So why are we so negative about this health industry, and why do we promote other industries? In Belgium most industries are subsidized by the government, exactly like people making medieval crafts in an exhibition. At the same time, one tries to reduce the expenditure on health. It does not seem very consistent to me, especially not at a time when everyone is so concerned about recession and employment. I am told that the health industry is a very labor-intensive industry, so there should be many reasons to promote employment by promoting labor-intensive industries such as health.

I think the main element is that there really is no rational way to calculate how much one should spend on health. First of all, there is no natural limit one can see except 100 percent, but that is not the kind of thing we are talking about.

There is absolutely no reason to believe that the actual division of the GNP over various sectors should remain more or less the same. It just does not. Some time ago the percentage of health care in the GNP must have been about 0.5 percent. At that time to double it would have given 1 percent of the GNP. Maybe economists at that time would have complained about this tremendous increase, but I think society was right in going ahead and spending more than 1 percent of the GNP.

What would be the danger if health care took more than 10 percent of the GNP? There are lots of things that take more than 10 percent of the GNP. I have been told that private insurance takes close to 20 percent of the GNP if you count it all together. I do not see why private insurance should be more productive, more desirable, than health.

So, on the first point, I think it is very doubtful whether we need to be concerned about containing health costs.

The second point is that if you think you should be concerned about spending too much, then the essential question is, how much should you spend? Too much is a relative concept. It means that it is more than you would like to spend. How are you going to decide how much to spend? I think there is, in fact, one answer and it is "As much as the people want to spend." And they can decide about this in two ways. They can go to the market and spend their own money buying health care just as they buy other things. It is our ethic in this country and in Europe to let people buy with their own money whatever they wish except when it is illegal. It is not unlawful to buy health care; so, in principle, we let people buy as much health care as they want.

A different mechanism comes into action when a group buys health care for its members. Then it is a matter of a collective decision through the political process within the group: how much will be spent on health care and how much on other goods purchased collectively. That is democratic decision making and it certainly is not unique in the health field. It is the same for all decisions on collective spending.

Neither the market nor the collective decision making is a perfect process. Both will be criticized but there is no alternative. One has to work to perfect both the market and the democratic decision making.

More important than the question of whether the market or the decision making works perfectly is the question of the information. With the best possible system the worst possible decisions are made if essential information is lacking. In the health field it well may be that neither the individual who buys health care on the market nor the political decision maker who buys health care for his constituents is well informed.

Like other industries, providers of health care do have vested interests, and they sometimes may deceive the public, either the patients or those who pay for their services, by making their services appear more useful and less dangerous than they really are. General Motors does that with cars, and physicians do it with medical services.

The role of the government or the collective is to impose rules on the producers of health care, just as it does on the producers of other goods, so that the providers will be less able to deceive their clients. The United States is far more advanced than Europe in this. General Motors no longer is allowed to sell a car unless it complies with a number of safety regulations. So it should be with health.

An important point is that the law requires patients to give permission to physicians to treat them for any type of ailment. It is illegal to provide medical services if all elements of legal medical practices are not present. Only properly qualified persons can prescribe pills, perform operations, or provide any other medical treatment and then only with the express permission of the patient. Yet this is a law that has become more theoretical than any other. Very few patients can give their permission for a specific treatment because they are not told what that treatment really is. A patient can give his permission only if he has been given full information about what the treatment is supposed to do, what it really is, and the effects that can be expected.

In practice, this has become impossible. If doctors were forced to give patients all information, whether for a trifling ailment or major surgery, we would have much less medical treatment by the same number of doctors. A surgeon could do no more than two operations a day if he took the time to fully inform the patient about the operation and its possible consequences.

Nevertheless, I believe that public authorities have the duty—not the choice but the duty—to enforce the law that has existed since the 17th century. We must force providers of health care to give full information and to take all the time necessary to do so. That would reduce surgery and medical treatments considerably.

Now to the third point. If, based on all the information available, the body politic decides that too much is spent on health and more should be spent on other things, how can this be done? If the public wants higher pensions and there is not enough money for both pensions and health care, how do we spend less on health care?

Cost sharing is one way to contain costs but it is a negation of health insurance. If health insurance is a way of spreading the cost of health care over the whole population, then it is not beneficial to take some of the cost out of it and to "spread" it over a much smaller group which was not chosen because of its greater ability to pay.

At a session of the European Institute of Social Security in Rome a few years ago, we discussed the various possibilities of cost sharing systems from a legal point of view. We concluded that cost sharing is not possible in the sense that the law gives to those words. There is no equitable system of cost sharing; each is a compromise between the need to save money and making people suffer for that reason.

Other ways to limit costs are on the supply side: limiting the supplies, pricing, reimbursement mechanisms, planning, and so forth. I believe that the measures taken must be equal to the effect desired. For those who believe too much is spent, the decision must be to spend less; those who believe that prices are too high must limit prices; those who believe that supplies are too readily available must limit supplies. But to limit one in the hope of reducing the other is tricky, and the side effects generally will be much larger than the final effect desired.

9

SHARING THE COST OF HEALTH CARE

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The idea of containing health care costs pervades all legislation on health insurance in France—even the insured person's portion is termed a "ticket modérateur," i.e., designed to "moderate" or discourage overindulgence.

In this paper we first will describe briefly regulations concerning sharing of health care costs and how these affect the real distribution of the cost burden. Second, we will analyze the attempts made in France to reduce these costs and see what success has been achieved. Last, we will examine why changes in legislation have had, and will probably continue to have, very little effect.

SHARING THE HEALTH CARE COSTS IN FRANCE

Today, 98 percent of the French population are covered by one of Social Security's health insurance schemes. In the case of these insured persons, legislation concerning the sharing of health care costs is well defined (*1*); but it also is possible to determine the true division of cost as this occurs in practice. For these insured persons the portion paid by Social Security is governed by three considerations: type of health care, basic fees, and coinsurance percentage.

The list of types of health care reimbursed by health insurance is updated continually to include new techniques of diagnosis and treatment; basically, all inpatient care in state hospitals is reimbursed, as are physician's services, with the exception of certain types of preventive care, services of auxiliaries, and drugs *on condition* that these have been prescribed by a physician.

The reimbursement scales are *all* fixed by Social Security, in most cases with approval of the medical profession, which agrees to abide by them.

The coinsurance percentages—the minimum percentages which the consumer will pay—are fixed for each category of health care.

In 1974, as a general rule, 80 percent of hospitalization costs were reimbursed, 75 percent of medical care costs, and between 70 and 90 percent of prescription drug costs, depending on the product.

However, what happens in practice does not always correspond with the system as officially designed and the share of the cost borne by consumers differs from these figures for several reasons:

TABLE 1

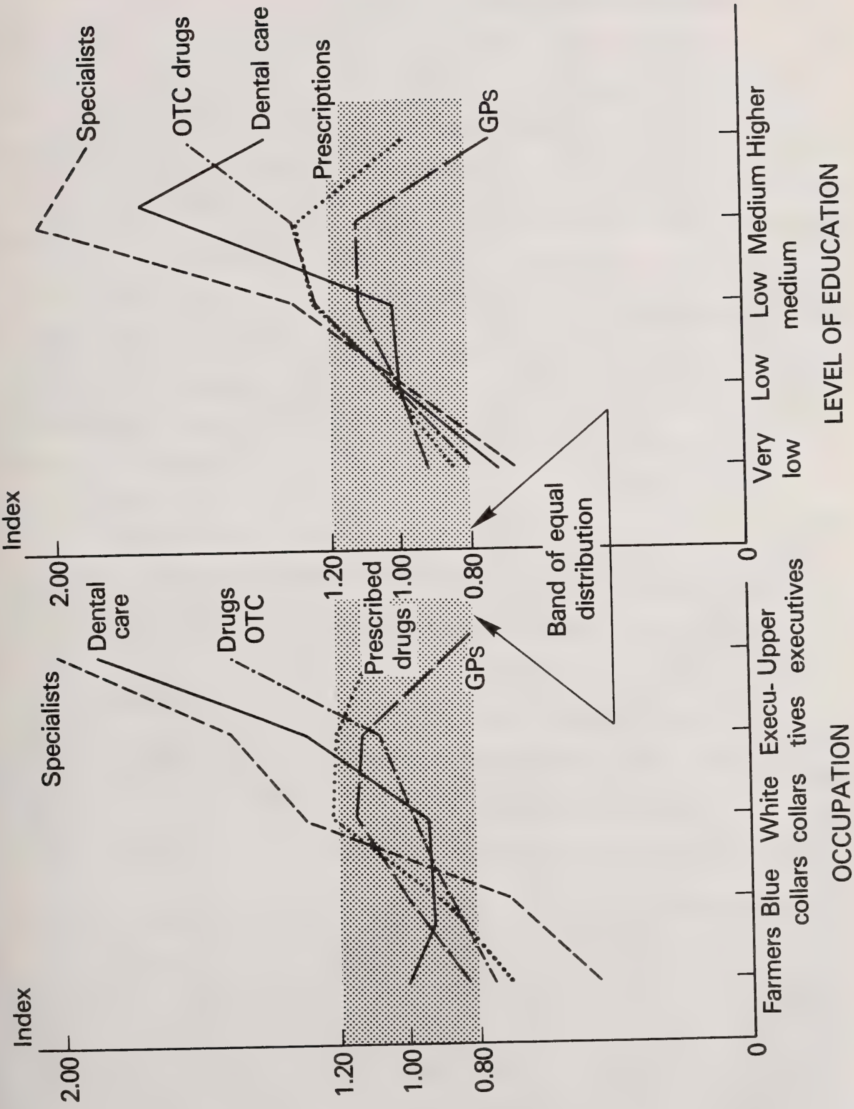
FRANCE: 1974

	Insured Persons			Total Population		
Population (%)	98			100		
Conditions of Payment	Scale of reimbursement (%)	Co-insurance (%)	Without Co-insurance (%)	Share of Cost		
				Individual (%)	Private Insurance (%)	Social Security or State (%)
Hospitalization	80	20	82.5	5.5	2.1	92.4
Physician's services	75	25	30.5	30.7	5.4	63.9
Laboratory tests	70	30	30.8			
Prescription drugs	70 or 90	10 to 30	28.8			
Over-the-counter drugs	0	100	0			
Total drugs	-	-	-	36.3	6.0	57.7
Total health care	-	-	53.4	23.7	3.9	72.4

SOURCES: (*2*, *3*)

- Two percent of the population are not insured.
- Those who are insured may have supplementary insurance (Mutual Benefit Societies or private insurance) which covers part of the cost not borne by Social Security.
- The legislation stipulates that, in certain cases, the patient should be required to pay nothing—this is true of accidents at work and patients suffering from long illnesses (the list comprises 25 such illnesses at the moment); it is also true of major surgical operations and inpatient treatment lasting longer than 30 days.
- The suppliers do not always charge official fees. Thus, as will be seen in Table 1, several situations arise:
- In the case of hospitalization, although the coinsurance portion is 20 percent, the individual, in fact, bears only 5 percent of the cost because of the frequent exceptions to the coinsurance scale.
- On the other hand, in the case of drugs and physician's services, the share of the cost borne by the individual is higher than the coinsurance scale as a result of overcharging or nonacceptance of certain services as qualifying for reimbursement.

It is very difficult to hold Social Security legislation solely responsible for specific phenomena in the area of prices or the utilization of health care since other factors have an influence—in particular, "morbidity levels" or factors of supply.


Index
2.00
1.20
1.00
0.80
0
Specialists
Dental care
Drugs OTC
Prescribed drugs
GPs
Farmers
Blue collars
White collars
Execu-tives
Upper executives
OCCUPATION
Band of equal distribution
Index
2.00
1.20
1.00
0.80
0
Specialists
OTC drugs
Dental care
Prescriptions
GPs
Very low
Low
Low medium
Medium
Higher
LEVEL OF EDUCATION

Nonetheless, according to macroeconomic studies and consumer surveys, it would seem plausible to relate some of these phenomena, at least tentatively, to official regulations.

Medical Care Utilization

Lecomte and the Mizrahis (*4*) pointed out that, based on the 1970 survey on medical care, there was no great difference in consumption between different income or social groups with regard to overall ambulatory care. Credit for this certainly must go to Social Security. But it also was demonstrated that, whereas the population as a whole made use of the services of a general practitioner, visits to specialists and dentists—more expensive services—varied by as much as four times between different income or social categories (Fig. 1). For such types of health care, therefore, considerable inequality still exists. It would seem that extension of the Social Security system and the suppression of the coinsurance amount might facilitate access to all types of health care.

We have shown (*3*) that the long-delayed extension of health insurance to farmers in 1961 certainly has given them greater access to health care, but that 15 years has not proved long enough to enable this part of the population to catch up with levels of consumption among other social categories.

Prices

Where a system exists for reimbursing medical care, the consumer's share of the cost is well below the producer's price. If Social Security had not stepped in and fixed prices, the law of supply and demand would become effective, which could cause an increase in costs (*5*).

In France, Social Security is involved in negotiating physician's fees and fixing the prices for reimbursable drugs and drug sundries. It seems that this system acts as a regulator exactly like the law of supply and demand in a free economy, because, as we have shown, the cost of physician's services (*6*) as well as the cost of drugs (*7*) has followed the same trend in France as in the United States.

WHAT HAVE BEEN THE CONSEQUENCES OF CHANGES IN THE LEGISLATION?

As early as 1969, 17 years ago, the control of health costs had become a subject of concern. In the United States at that time health expenditures amounted to 4.7 percent of the gross national product (GNP): in France the figure was 4 percent, and the forecast that this would reach 5 percent by 1965 was greeted with horror. Something would have to be done, and the measures actually taken enable us to study in a real life situation what happens over the short term when changes are made in legislation.

On January 1, 1959, Social Security lowered the scale of reimbursement for X-ray procedures, but physicians continued to apply the same rates as before (*8*). Thus overnight, the patient's participation *tripled*. One would have supposed that an increase in cost of such proportions would have affected the level of utilization. In fact, there was a drop, but one of minor importance which never exceeded 14 percent. Moreover, this reduction was very short-lived, and the situation recovered by the last quarter of the year when the former scale of payments was reinstated (Fig. 2).

In economist's terms, this denotes that the price elasticity of the demand for X-ray procedure is 0.02, i.e., negligible.

As a second example, we could quote the case of drugs and drug sundries that same year, 1959. On January 1, 1959 a deductible of F30 ($7) was applied to such products, i.e., the cost of drugs was reimbursed only over and above this amount. This regulation lasted only 6 months and was repealed on June 25, 1959 (Fig. 3).

As a result, expenditures of the Social Security regimes dropped by 3.5 percent in 1959. However, total expenditures on drugs did not decline but, in fact, increased by 18 percent in 1959. In other words, the individual absorbed that part of the cost which was no longer reimbursed by Social Security.

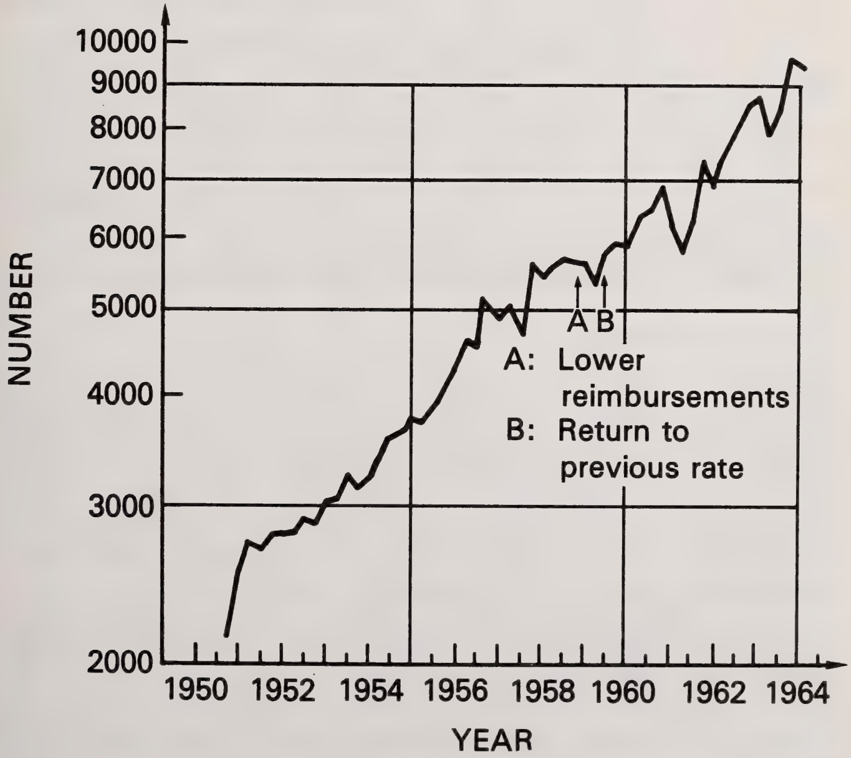


Figure 2. Evolution of X-ray procedures.

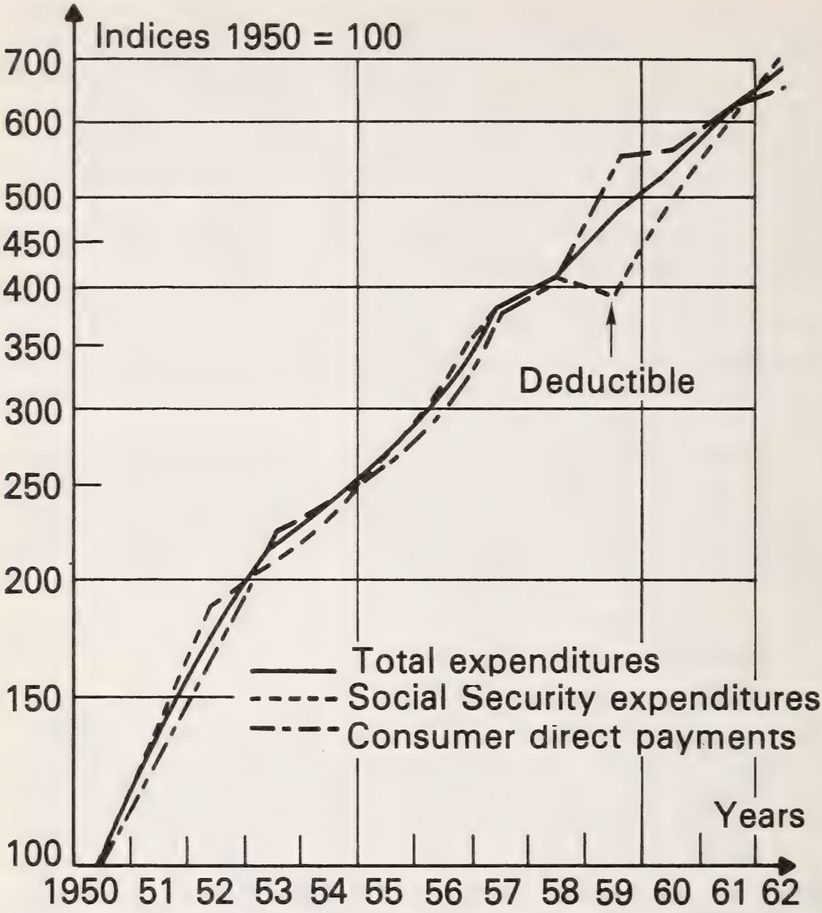


Figure 3. Drug expenditures.

In both previous cases, the measures were repealed even before their effects could be analyzed. In the case of drugs, it was said that the cost of administering the system exceeded the amount saved on reimbursements. Note that a year later, on July 12, 1960, agreements were drawn up with the medical profession—an initiative which resulted in a considerable rise in Social Security's expenditures, but which has continued ever since despite a few conflicts over the years.

A more recent period (1967–68) provides a further example of a measure which had to be revised at the end of 7 months. In November 1967, the coinsurance amount for ambulatory care, which stood at 20 percent, was raised to 30 percent, involving a 50 percent increase in the cost to the insured person. This measure was made even more unpopular because, during the same period, a series of statutes ("les ordonnances") reorganized the basic regime of Social Security with the result that the influence of trade unions was reduced.

However, the consequences of these measures cannot be assessed accurately; in fact, how can the decline in the growth of health care be attributed solely to the increase in the coinsurance amount when the months of May and June 1968 were marked by a general outbreak of strikes in industry, transportation, and services?

On June 21, 1968, during negotiations to end the strike, the unions succeeded in obtaining the repeal of the measure increasing the coinsurance amount which, since that date, has remained at 25 percent for ambulatory care.

WHY HAVE MEASURES TO REDUCE THE STATE'S CONTRIBUTION PROVED INEFFECTUAL?

It certainly would be wrong to conclude from the preceding examples that legislation dealing with the state's contribution to health care has no effect on the growth of health care expenditure. We have attempted to show that changes of a restrictive kind in social legislation, such as those which have taken place in recent years, have not slowed down the growth in health care utilization.

Perhaps such measures have been too limited in scope, but could they have been otherwise? The answer would appear to be "no."

As Figure 4 shows, health care expenditure is distributed very unevenly over the population; over a period of 3 months, 41 percent of the population had no health care expenditures, 50 percent of health care expenditures were accounted for by only 4 percent of the population—those most seriously ill and in greatest need of care (*9*).[1]

One can be certain that concentration of health care in this manner occurs in every country and that health insurance is a vital need everywhere (*10*). When health insurance officials wish to reduce their costs, they are faced with a dual problem: Either they have to reduce their participation in the health care costs of a tiny number of individuals whose expenditure is high, or they have to introduce restrictive measures which are less serious but which affect a greater part of the population.

In the first instance, moral considerations create an obstacle which is all the more difficult to negotiate because arguments invoking misuse of the system would be profoundly unacceptable to those seriously ill or with chronic conditions.

In the second case, the considerations are of a political nature. The unpredictable behavior of illness and its frequently dramatic consequences have made public opinion very sensitive to anything concerned with

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[1] Ten percent of the population account for more than two-thirds of the health care expenditure.

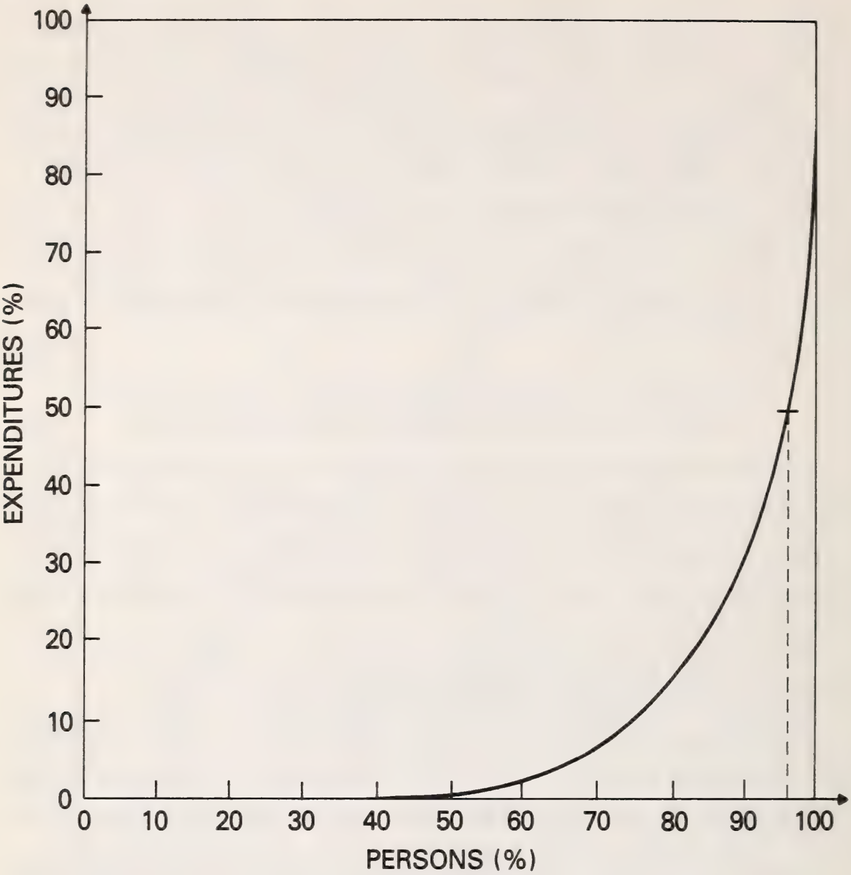

Figure 4. Distribution of health care expenditures.

health. Opinion polls have shown that people prefer to contribute more rather than see the coverage of health risks diminish. When the Seventh Plan was prepared, it was discovered that local authorities gave first priority to health care facilities, ahead of education and ahead of highways! Trade union opinion also favors this attitude; therefore the authorities hesitate to reduce health insurance coverage for the majority of voters.

CONCLUSIONS

This is certainly the reason why, when ways and means of changing legislation are being considered, there is only one possibility available: that of increasing the coverage. And this is exactly what happens. Is there not talk in the United States of national health insurance, and in the United States too, has not the practice of reimbursing drugs been revived?

In France, the number of instances where the patient has nothing to pay out is increasing. One of the guidelines for the Committee on Health and Health Insurance for the Seventh Plan concerned containment of health costs, and the committee's recommendations included (*11*):

- Suppression of coinsurance for hospitalization costs and its replacement by a flat-rate payment of F10 per day (about $2).
- Suppression of the coinsurance amount for *all* health care costs for those drawing public assistance.
- Improvement in the scale of reimbursement for dental prostheses and eyeglasses.

Is it useless to attempt to contain health care costs? We do not believe so, even if we eliminate the easy solution of providing patients with a lower standard of care. Health insurance schemes, whether public or private, must find means of satisfying the nation's health care requirements at a reasonable cost, which means a reasonable scale of premiums. If they fail in this task, the whole system will be at risk. There would appear to be two possible solutions.

First, with regard to prices, we have seen the role of Social Security in fixing prices and how, in the absence of a market economy, it has been able to keep prices at a reasonable level. The French Social Security has been successful in achieving this, and it cannot be said that the cost of health care has risen faster than the cost of other services.

Second, with the help of the medical profession, efforts can be made to improve the availability of health care and the way the system is managed. Over the years, concern with this problem has, if nothing else, introduced a number of high-sounding phrases into the vocabulary, e.g., Operational Research in 1942; Cost Benefit Analysis in 1960; PPBS in the United States in 1965; RCB in France; and, since 1972, PSRO. The latter consists in carrying out the diagnosis and treatment of patients under the most suitable technical and psychological conditions, i.e., using the quickest possible methods, which is a way both of reducing cost and satisfying the patient's desire for rapid and effective treatment. Were this method to be applied, it could have an immediate effect in reducing costs, but it certainly would not enable the increase in health costs to be reduced indefinitely.

Will health care costs therefore continue to rise? Certainly! Based on projections we have made for 1980 (*12*), expenditure on health care should continue to rise at a rate similar to that of recent years. This forecast was accepted by the Committee on Health and Health Insurance (*11*) once we had shown that health care costs (which, it should be mentioned, are increasing less rapidly than expenditures on automobiles, tourism, and electrical appliances) will account for less than 7 percent of our GNP in 1980, i.e., less than the figure already reached in the United States.

But what is the position in the United States? In the United States, too, health care costs will continue to increase (*13*). A simple calculation shows that if health care expenditures increase by 6 percent a year and GNP by only 3 percent,[2] by the year 2000 health care expenditures will represent 14.3 percent of GNP, but of a GNP equal to more than twice that of 1973. The nonhealth-care portion of GNP will be twice as large as it is today, representing an overall increase in living standards and perhaps also a reduction of inequalities.

Our argument should not be regarded as pessimistic. It shows, of course, that France has not succeeded in putting a stop to growth in expenditure on health care; but it also shows that increase in such expenditure has not led to economic imbalance in the past and is not likely to do so during the course of the next 25 years.

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[2] Rates applying between 1960 and 1973.

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THE AUSTRALIAN HEALTH CARE SYSTEM: A REVIEW OF RECENT CHANGES IN HEALTH CARE FINANCING AND ORGANIZATION

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> *The sickness of our age is not due to a lack of worthy causes, but to a lack of belief that worthy causes can be won . . .*
>
> *A proper respect for the complexity of things makes one a skeptic among believers and a believer among skeptics . . .*
>
> *What is counted as truth in one age is myth in the next.*
>
> JACK TANNER[1]

INTRODUCTION

In the last 6 years, the Australian health care system has undergone a series of significant changes in both the methods of financing and paying for health care and in the methods by which services are administered at the regional and state levels. Such changes have profoundly influenced relationships between governments, providers, and consumers of health care; they also have affected the trajectory of health expenditures and costs. This change in the Australian health care system has some relevance to the subject of this conference.

Much of what I can relate will be affected by changes in the national system of financing and paying for health care (Medibank) announced on May 20, 1976.[2] These changes come some 11 months after the introduction of the national universal health insurance scheme (Medibank) introduced by the Labor government on July 1, 1975. A comprehensive review of the impact of all these changes is therefore liable to the criticism that they still are occurring and thus are not measurable. This fact is undeniable. Nonetheless, the Australian reforms in the last 5 years are worth reviewing if only to point out how other nations contemplating similar action might learn from the Australian experience.

This paper attempts to summarize the major reforms with a view to identifying their effects on costs and expenditures. First, it outlines the reforms; second, it identifies some of the lessons of these reforms acting in tandem; and third, it outlines some personal views on some of the principles of gradual reform that seem to be relevant to other nations which are contemplating abatement of their health cost and expenditure rise.

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[1] *Challenge* (March–April 1976), pp. 3–5.

[2] The changes still go on. Further amendments were announced in late 1976 and in 1977. These are not discussed in this paper; they do not markedly change the conclusions.

THE AUSTRALIAN HEALTH CARE SYSTEM IN THE 1970s: A THUMBNAIL SKETCH: HEALTH CARE COSTS AND EXPENDITURES

Any evaluation of the impact of national health care reforms on costs and expenditures probably should include some basic historical data on the nation, its health system, and the cost-expenditure trajectory. For the reader unfamiliar with Australia, Table A-1 (all tables are in the Appendix) summarizes some pertinent data on its population and its health status, which generally resembles something between Canada and the United Kingdom. Table A-2 summarizes some of the more important statistics on its health system. Table A-3 is a chronology of recent reforms either initiated within the system by different levels of the government, or proposed for implementation in the near future following the government's minibudget announcements on May 20, 1976.

These three sets of tabulations cannot fully present a bird's-eye view of the Australian health system. Nonetheless, the reforms initiated in the last 5 years have come at some incremental cost. It remains to be seen whether the benefits of the Community Health Program include a future reduction in the use of acute hospital beds or whether the program can prevent illnesses which would otherwise find their way into doctors' offices or require drug therapy. It also remains to be seen whether the new health insurance mechanisms change the health price-cost-expenditure trajectories.

So that the reader familiar with the U.S. health system has some baseline for comparison, Figure 1 indicates the sources of health expenditures in Australia and in the United States in 1972-73. At that time, Medibank had not been introduced and the major determinants of the health cost rise had already been set in motion by some of the early events listed in Table A-3.

Table A-4 gives an indication of the four major cost components of health care in 1972-73 (institutions, medical care, public health, and teaching/research). The major difference between Australia and the United States is that, in theory, the larger contributions of the government to the health sector in Australia (57 percent versus 40 percent in the United States) should give the government a position of strength vis-a-vis the private sector from which to initiate cost control, regulation, incentives, cajoling, or whatever else is needed to reduce the health cost rise. More recent estimates for Australia are presented in Table A-5. As we all know, that argument has not yet worked in many developed nations, though one suspects that many nations will soon follow the range of options recently taken in Canada,[3] the United States,[4] England,[5] and Australia.

SOME LESSONS OF THE AUSTRALIAN HEALTH CARE REORGANIZATION IN THE 1970s

Overview

At the onset, the presumptuousness of attempting to give a global view of the lessons of the last decade of Australian health care at the midpoint of many of the changes is acknowledged with the appropriate modicum of humility and in partial deference to the views of those experts who say it cannot be done or should not be attempted. Indeed, as the immortal Jack Tanner noted: "Two of the most pernicious influences on the modern world have been Adam Smith and Karl Marx. They spoke in parables which were mistaken by their followers for facts. Nothing is more dangerous than acting on parables as if they were facts."

Nonetheless, suitably chastened but somewhat unrepentant, I personally believe that history will judge that there were a number of lessons for Australia and for other nations, from this critical period in Australian health and welfare reform. I will concentrate only on those lessons that seem to have some relevance to health prices, costs, and expenditures and their control:

- The importance of a single federal authority to develop, in accord with states and the private sector, national health financing, and health care services.
- The importance of prior definition of what is known about key variables in a system of health financing and insurance, before national debates descend to the resolution of basic ideological beliefs and values.

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[3] The Canadian federal government, in mid-1975 (Bill C68), indicated its intent to renegotiate cost sharing agreements with a view to making health care cost-effective; Ontario recently (December 1975) has moved to close 3,000 beds and freeze senior administrators' salaries; New Brunswick is closing 329 beds.

[4] The United States has (1) implemented (in 1974) a new health planning law (P.L. 93-641); (2) promoted maximum allowable cost regulations in July 1975 for drug benefits under federal health programs (particularly Medicare and Medicaid, offering the further potential for a national formulary at some later time); (3) set up a 3-year experiment with a Cost Review Commission for Medicare in one state (1975); (4) initiated intensive studies of hospitals and health care productivity through the National Commission on Productivity and Work Quality; (5) proposed (Bill HR.11233, 1976) block grants to states on the basis of a formula reflecting the numbers of low-income individuals, tax effort, and average state income); (6) implemented a Professional Standards Review Organization (PSRO) through P.L. 92-603 in October 1972.

[5] The British government (through *Priorities for Health and Personal Services in England*, London: Her Majesty's Stationery Office, 1976) has recently set priorities for health and personal social welfare services, cutting back capital expenditures from 1976–77 by 1.8 percent per year for the National Health Services, and by 2 percent for personal social services. An increase in expenditures on primary care by about 3.8 percent per annum, with growth of general and acute hospitals at 1.2 percent per annum is planned.

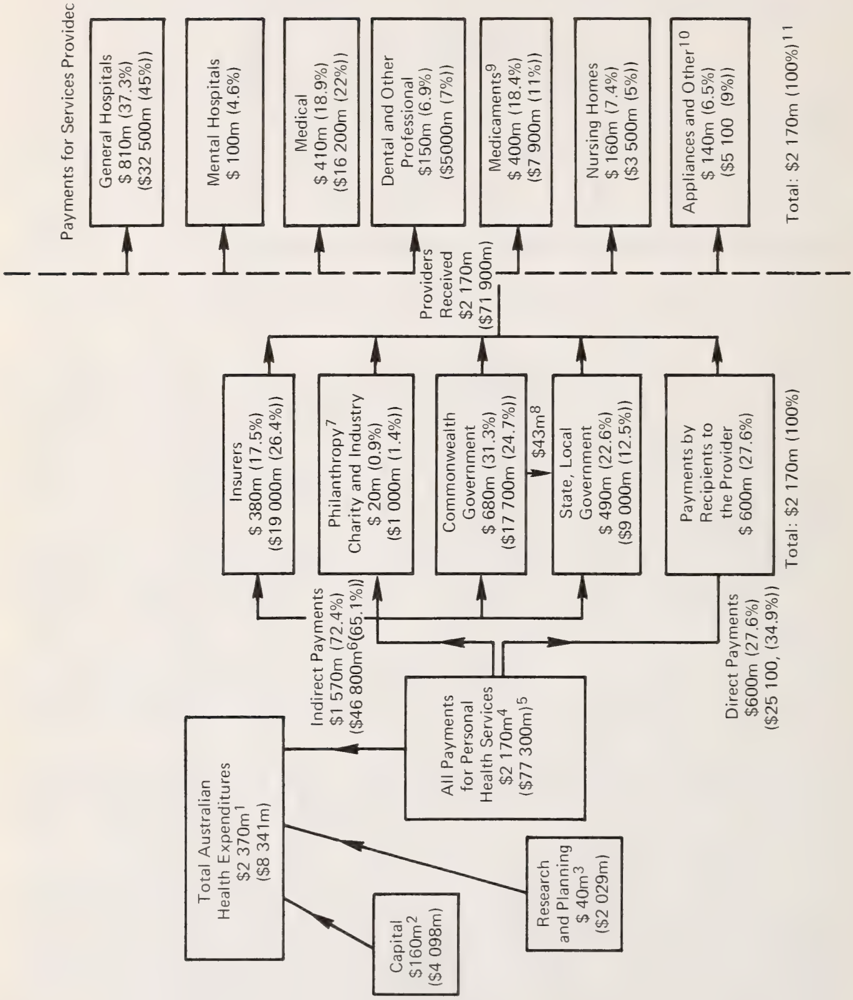
Total Australian Health Expenditures $2 370m[1] ($8 341m)
Capital $160m[2] ($4 098m)
Research and Planning $ 40m[3] ($2 029m)
All Payments for Personal Health Services $2 170m[4] ($77 300m)[5]
Indirect Payments $1 570m (72.4%) ($46 800m[6] (65.1%))
Direct Payments $600m (27.6%) ($25 100, (34.9%))
Insurers $ 380m (17.5%) ($19 000m (26.4%))
Philanthropy[7] Charity and Industry $ 20m (0.9%) ($1 000m (1.4%))
Commonwealth Government $ 680m (31.3%) ($17 700m (24.7%))
$43m[8]
State, Local Government $ 490m (22.6%) ($9 000m (12.5%))
Payments by Recipients to the Provider $ 600m (27.6%)
Total: $2 170m (100%)
Providers Received $2 170m ($71 900m)
Payments for Services Providec
General Hospitals $ 810m (37.3%) ($32 500m (45%))
Mental Hospitals $ 100m (4.6%)
Medical $ 410m (18.9%) ($16 200m (22%))
Dental and Other Professional $150m (6.9%) ($5000m (7%))
Medicaments[9] $ 400m (18.4%) ($7 900m (11%))
Nursing Homes $ 160m (7.4%) ($3 500m (5%))
Appliances and Other[10] $ 140m (6.5%) ($5 100 (9%))
Total: $2 170m (100%)[11]

Figure 1. Financing of national health care: Australia 1972–73 and United States 1972.

Notes

[1] The grand total ($2,370 million) is about 3 percent below a more recent estimate (Department of Health *Annual Report 1975*), but we could not distribute components of the higher figure. Public health adds another $90 million (see note 4 below).

[2] Privately and publicly owned.

[3] "Teaching and research" includes only the *clinical* years of medical training and only part of nursing salaries and therefore may appear to some to be low. *Research* costs represent about $10 million of the $40 million shown.

[4] Excludes $90 million for public health services.

[5] Includes $2,100 for government public health activities.

[6] Excludes $5,400 million in public health expenditures, administrative expenses of insurers and charitable organizations and similar items that are included in the total for health services and supplies.

[7] Philanthropy etc., difficult to assess accurately.

[8] HHSC, *A Report on Hospitals in Australia*, Canberra: Hospitals and Health Services Commission, p. 192.

[9] "Drugs" are called "medicants," as they include all health aids obtainable at a pharmacy (e.g. bandages, cough mixtures, nonbenefit pharmaceuticals, etc.).

[10] Domiciliary care included with appliances—no separate figure *readily* available.

[11] Administrative costs cannot be separated from each of the services.

SOURCE: Australian data, Hospitals and Health Services Commission working paper (unpublished); U.S. data, CED, *Building a National Health Care System*, New York: CED, April 1973 (Figure 4 and Table 1), All figures rounded.

- The importance of at least an implicit recognition of the value of defining a *minimum* standard of care and a minimum benefits package before changing national health insurance schemes.
- The importance of a concurrent rationalization of existing categorical grant programs (e.g., nursing homes, home care, pharmaceutical benefits, hospital construction, community health services) with any changes in methods of financing and paying for health care.
- The importance of a concurrent review of medical education in teaching hospitals and related teaching health services, particularly their financing.
- The importance of detailed consideration of incentives to cost and quality control by consumers, providers, governments, and politicians before making significant changes in health financing and payment systems, particularly the medical fee system, state health planning activities affecting the bed supply, and quality control by peer review methods.

I shall now make some brief observations on each of these six points, giving particular attention to their implications for affecting health care prices, costs, and expenditures.

A Single National Authority for Health Care Financing and Services Policy

A declaration should be made at the onset about personal biases. I am a "states'-rights-in-health-care" advocate who has been involved in a federal commision whose major objective, in the period 1973–75, was to bridge the traditional federal–state government gap of "us" and "them." My beliefs about administrative reforms of Australian health and welfare administration have been set down elsewhere (*1*).

Few nations, concurrently, have had three separate authorities for health financing and for broad national policy on health manpower and delivery systems. Yet, in the period 1973–75, such was the case in Australia. Health care financing and delivery are integral parts of a single whole; policy for one component is not separable from the other. A single voice is needed at the federal level to be responsible for both components. Such a body should also work in tandem with a National Advisory Panel of the major interest groups in health care providers, third-party insurers, the private health industry (drugs, equipment, etc.), the professional associations, accrediting bodies, and the consumer.

The effect of the multiple policy-making units on health costs becomes more obvious when such organizational overlap results in:

- One commission being responsible for the payment side of Medibank.
- Medibank, through one department, funding the operating costs of hospitals on a 50-50 basis with states.

- The same bodies funding a limited number of individual health services through Health Program Grants which were used to support some multiphasic screening centers, industrial health services, and state-run pathology services, with all grants providing one alternative to fee-for-service payment methods.
- One commission funding the capital costs of hospitals (Hospitals Development Program), the capital and operating costs of out-of-hospital community health programs (the Community Health Program), and a national Planning and Research Program.
- Other departments deciding on policies for home care, nursing homes, paramedical services, and rehabilitation.

The end effect is something less than comprehensive care and a more fragmented policy-making process which leaves both gaps and redundancies. It leads to a curious mix of cost sharing, with proportions varying from 50–50 to 100 percent, each having a different effect on incentives to states/institutions to reduce costs.

Health Financing and Insurance: What Are the Key Variables?

The advocates of Medibank found it possible to interpret a worldwide literature on what happens to demand, supply, prices, and costs following changes in methods of financing, payment, and insurance in other nations to come up with the assessment that the demand for most health services was not significantly price-elastic,[6] that supply-side responses were apparently not well documented, and that prices and costs would not rise significantly if Medibank replaced the old voluntary system which did not cover some 15 percent of the population in 1972.[7] As such, deductibles were not an effective control on unnecessary demand.

Other nations obviously have come to different conclusions, with the U.S. national health insurance debate reflecting other viewpoints. While it is not accurate to observe that the U.S. debate has hinged on the potential impact of deductibles and coinsurance, comparative data from different nations and from new studies have featured in the policy analysis underlying that debate.

Medibank, from July 1, 1975, did very little to place restraints on unnecessary use of medical care, hospital beds, diagnostic services, or pharmaceuticals. On the contrary,

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[6] There were some challenges to this interpretation of the literature. Some were initially ignored, some incorporated in the official estimates of induced demand for certain ambulatory services, and finally, there was partial endorsement of the alternative viewpoint in the actual size of the induced demand in some hospital clinics and doctors' offices (*2–7*).

[7] CBCS, Reference No. 17.7, May 31, 1973.

- It radically (and adversely) affected the use of beds in public hospitals by creating an artificial demand for private hospital beds and services;
- There is some evidence that the number of public hospital patients decreased;
- There are confusing impressions of whether doctor visit rates have increased;[8] and
- There is less evidence about the size of any increases in first visits, followup visits, or ordering rates for diognostic tests.[9]

In my view, the Australian experience demonstrates that, without such a review of the options, the national health insurance debate inevitably drifts into ideological warfare, and the resulting casualties are at least two in number:

- Forward estimates of the incremental costs of new initiatives become harder to define, and, as a result, decisions are made without firm cost estimates of alternative options.
- Without some concept of a minimum benefits package in lieu of the use of some form of patient cost sharing, open-ended cost sharing arrangements develop which cannot be sustained in the long term.

Minimums, Maximums, and Prevention

The Australian experience does nothing but supplement the experiences of nations such as the United States and Canada that few nations, if any, are capable of sustaining a health system where "optimal care for everybody" is the norm. Rather, the Australian experience of less than one year has highlighted the need to focus on *minimum* sustainable standards of care, on *minimum* benefits packages for any national health insurance scheme, and on preventive coverage in such a scheme.

Comprehensive health care surely requires the specific inclusion of benefits for minimal preventive services in a minimal benefits package. In-hospital mental health care was not covered in Medibank, while out-of-hospital mental health care is supported through the Community Health Program, for which patient charges are not yet made. One major parameter in the debate on what mental health care coverage is included is the extent to which fee-for-service financing replaces cost financing in future national programs. For continuity and comprehensiveness of care, if not for its costs, it seems preferable to move closer to fee-for-service coverage under Medibank than to continue categorical programs covering a range of community health services. The other side of the coin is that in any future Health Maintenance Organization (HMO) developments, the cost financing approach may offer more stable funding and a lower cost per patient than under fee-for-service.

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[8] A before-and-after study is under way to assess the effects of Medibank on doctors' private practices, with the study generally resembling the 1970 Quebec studies by Enterline and his associates.

[9] There is only anecdotal evidence to suggest that diagnostic test ordering rates have increased, but there has been a large stampede of pathologists and radiologists leaving public hospitals for private practice. There has been a surge in diagnostic services, use rates, and costs since 1975.

Concurrent Rationalization of Intergovernmental Financing (Including Community Health Financing)

Coupled with the earlier observations, the foregoing paragraph suggests that national health insurance reform should go hand in glove with reform of community health services financing. But if the national health insurance reforms are linked to the tax system (e.g., for tax credits, tax rebates, or tax or levy financing), it also is necessary to ensure that the review process carefully evaluate the impact of different methods of intergovernmental financing on incentives, on health costs, and on health expenditures.

The amendments to Medibank announced on May 20, 1976 attempt to link Medibank reform by way of a tax levy opting-out process to reforms in the tax system through full indexation of taxes, to a family allowance system of income maintenance, and to large cutbacks in government expenditures. There are already signs that the end result of all these reforms is unclear to the public and that one or more developments could occur, with some effects on the social costs of the overall reforms.

First, if the consumer is unclear about how he gains from tax indexation and from the child allowance scheme, and whether he loses from a 2.5 percent Medibank levy, he either may not move out of Medibank into private health insurance (which might lead to a lower total cost to him) or he may continue to retain his coverage under private health insurance (as 64 percent of the population have done despite the introduction of Medibank), paying more than he needs for care that is now no longer subsidized by the federal government.

Second, a proposal to restore the role of the private health insurance industry (by setting a Medibank tax levy of 2.25 percent, resulting in families with incomes beyond $10,000–12,000 opting for private coverage) is aimed at reducing the costs of health care by the insurance industry, bringing about efficiency in the use of beds (ostensibly through making the industry more aware of the competitive urge by proposing that states raise public hospital charges to $40 and $60 per day,[10] i.e., closer to real cost, so as to eventually achieve insurance premiums that actuarially relate more closely than the present premiums to user cost.

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[10] The $16-per-day federal bed subsidy will not be withdrawn from private or public hospitals.

This proposal conceivably could backfire (1) if the standards for entry to the opting-out process resulted in a two-class system (Medibank for the poor, private insurance for the nonpoor) when Medibank needs a mix of low-risk/high-risk patients for survival, and where the private health insurance industry gets windfall profits from the low-risk policies of higher income groups; or (2) if there were not a prior reduction of the number of private health insurance carriers permitted to offer coverage. Smaller, inefficient carriers not offering comprehensive benefits are not likely to have lower administrative costs than Medibank unless a uniform federal program can reduce the variance in the administrative costs of the private health insurance industry. Their unit costs increase with coverage of extended care services (because of the greater claims review effort than in acute hospitals) and with unused computer processing capabilities (which occur in smaller firms).

Third, if the cost-shared reimbursements from federal to state governments took the form of a block grant made prospectively once per year on some per capita estimate of demands and unit costs, it would seem an appropriate time to look at the financing of related out-of-hospital community health services, particularly where the use of such services could reduce the load on expensive acute beds in hospitals (e.g., home care, preventive mental health). If such a potential were ignored, it is quite conceivable that states will end up with a health financing system that maintains the low budget priority for community health services because of the rising costs of in-hospital care. A block grant for all health care, based on the submission of areawide budgets, seems achievable.

Such an integration might facilitate intergovernmental financing through revenue sharing. In the interim, the states are already hinting at the possibility that they will be forced into additional indirect taxes to cover the cost of handing back health financing (and other federal initiatives) to the states (*8*). Such increases hardly would be a boost to increased consumer demand or economic recovery.

Fourth, unless a nation clearly defines the links between its objectives for health financing and other forms of welfare financing, it runs the risk of colliding head on with the realities of government financing, i.e., that not all "big" government programs may be supportable from general revenue at the same time, and the choice of one program automatically affects other social welfare funding priorities. Medibank, by adding another $1,400 million to government expenditures in 1975–76, seriously biased the attack on other social welfare priorities, and the social costs of this decision rarely have been questioned, let alone calculated. As a result, federal programs for income security, compensation, rehabilitation, and superannuation went into the waiting line for future funding.

The long period of review of U.S. income maintenance, health insurance, and housing allowance schemes has given that nation an unequaled opportunity to learn from the Australian situation. Half aloud, I wonder if the social welfare theorists are able to tell the nation which of these programs it needs most, which it can afford, and whether parts of each program are implementable. One lesson of Australian and Canadian health insurance reform is that gradualism is likely to lead to more acceptability of the reform, and that the U.S. deliberations seem to recognize, and perhaps even enshrine by delay, this fact of life.

Medical Education and Health Financing

Medibank Mark I had at least three initial adverse effects on teaching hospitals and medical education:

- It created problems in the reimbursement of clinical teachers by raising the incomes of other hospital, nonteaching, salaried clinicians of similar status and experience.
- It exacerbated the problems of finding adequate teaching material in outpatient clinics by offering incentives which draw pensioners and hitherto uninsured groups into private specialist treatment in doctors' rooms.
- It rendered the development of an integrated patient record system almost unachievable, since private practice records do not find their way into the hospital medical record system.

The solutions proposed by academic medicine would see hospitals pay the full local-state sessional rates for actual clinical work done by university full-time staff, using a block grant to the universities concerned (which would then disemburse the grant on some basis of clinical loading). Such a proposal can only raise the cost of health care generally and medical education in particular. Another "solution" would see private consulting suites being provided in teaching hospitals to encourage private specialist practice on a full-time geographical basis, facilitating undergraduate teaching on patients attending for private consultations.[11]

Such solutions cannot be viewed in isolation from ongoing debates about what the role of the public hospital should be (including the role of teaching hospitals) and what are the most efficient methods of financing medical education. On the first point, a more detailed evaluation than is given here is needed of a possible future in which public hospitals and government programs (e.g., Community Health Program) are increasingly limited to those services not provided in the private sector (extended bed care, mental health care, drug abuse care, etc.) Second, there may be long-term advantages in facilitating the development of private medical group practices located adjacent to or integrated with hospital facilities.[11] Indeed the ultimate success of the HMO model in urban areas may depend on this prior development.

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[11] This is one U.S. strategy receiving priority funding from the Robert Wood Johnson Foundation (*9*).

On medical education financing, it may be desirable to finance medical education from education funds rather than from revenue generated through patient care. With the private insurance coverage, it is desirable to anticipate the problems that third parties face in controlling doctor costs. If we want third party insurance organizations to crack the cost control whip, it might be worthwhile recognizing that, at least in the United States, their major role in cost control is through restricting their reimbursement to administrative and nonmedical services. In turn, this situation has increased the pressure on full-time and part-time clinical teaching staffs to generate increasing proportions of their individual incomes through private medical practices. I hope Australia will avoid that path.

Incentives for Cost Control

The Medibank experience from July 1975 to May 1976 revealed that the nation is decidedly reticent about devising incentives to influence the use of services and their costs by affecting consumers, providers, and third-party insurers. The reforms of May 20 could be a significant improvement in this regard in that:

1. People would choose the type of care they wanted with a fuller recognition of the costs of their insurance decision.
2. The proposed 2.5 percent levy would act as an instrument to contain overall costs, to impose discipline on the health insurance funds[12] and, indirectly, to exercise influence over medical fees[13].
3. If costs of care rose at a faster rate than incomes, private health insurance premiums would rise faster than levy contributions, and people would be likely to drop private health insurance in favor of Medibank protection.
4. Reviews of professional standards are to be instituted by the medical profession within 3 years.
5. The state governments have been given indications that the present open-ended, cost sharing arrangements are not sustainable, and have been implicitly invited to begin cost

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[12] Ostensibly this discipline would come from the new competition between public (Medibank) and private sectors.

[13] This influence would be exerted through the new competition and because the amount of private practice work in hospitals would remain stable (if fees do not rise faster than incomes), leading to easier negotiation of agreements about conditions of service for work in public hospitals.

cutting, to raise hospital bed charges, or to raise state taxes to to meet any future revisions of the cost sharing agreements.

SOME THOUGHTS ON BROAD PRINCIPLES OF HEALTH COST CONTAINMENT

By and large, Australia is just at the beginning of hard times in health care, with the hard decisions yet to come on what mix of incentives, regulations, or other controls is needed to control quality, quantity, or reimbursement. As indicated, the cost control mechanisms that are likely to be most effective inevitably could involve at least four distinct components:

- Reducing the acute bed supply while making use of less expensive services that are more in accord with patient need.
- Making more productive use of manpower and facilities.
- Regulating the medical fee system.
- Forcing promotion and preventive services into a position of budget priority to attack a number of diseases of civilization at the earliest possible time.

At first glance, how we attack cost containment seems to depend to some extent on whether we acknowledge Rashi Fein's viewpoints on the myths of treating health care like any other market system (*10*).

But going beyond Fein's concerns, the Australian experience in the last 5 years (and in the next few years) gives to the policy analyst concerned with cost containment one indication that it is futile to focus on cost sharing and pricing mechanisms, provider reimbursement, utilization review, and health planning in isolation from one another, from other facets of health care organization, from broader aspects of intergovernmental financing and, most importantly, on political perspectives on the value of health care versus other social welfare programs. Some personal views on priorities for reform, while reflecting some personal biases, are now indicated.

Pious Aspiration 1

To date, attempts to influence cost containment in health care through consumer participation in the planning and evaluation process have had two obvious results. First, we have spawned a health service research industry that is generally overconcerned with price elasticities of demand and with the determinants of use of health services. This work generally stops short of detailed models that come to grips either with behavioral factors or with cross-utilization of different health services at different times of the day. Rarely is there any attention to different referral patterns and modes of access to different services. Second, few consumer participation advocates have paused to ask how and when the consumer can be more effective in cost containment.

As a researcher turned federal bureaucrat, my first hope would be that cost containment research is targeted on some areas religiously ignored in most research to date.

For example, our failures to contain use, price, cost, and expenditures may be due as much to the fragmented nature of the policy development process as to the fragmentation of our research efforts by different disciplines. I cannot see any rapid progress in health cost reform unless consumers, health professionals, third-party insurers, governments, and politicians find a new forum in which critical issues are analyzed and reviewed. Are there any national experiences to suggest how such a forum can evolve and be sustained in balance with traditional policymaking bodies?

While health planning, per se, cannot always be seen to have had a large impact on use or costs, I continue to believe that this situation will continue while the planning processes at federal, state, and institutional levels are not linked to the process of financing capital and recurrent health expenditures and to the process of setting cost reimbursements. What new consortiums would facilitate these linkages?

For those who really believe in medical audit, peer review, and utilization review as the panacea to our cost ills, there are some unanswered issues to be researched. Those who would have us set norms for lengths of stay and use of procedures will first have to resolve a messy methodological issue: why various studies of overutilization of services and procedures in at least three nations show such a variation in their findings of how much unnecessary surgery occurs. The range of 10-60 percent is too large to be explained away either by vague references to national variations or by ignoring the prior need to define terms, to select carefully the evaluation methodology, and to be critical of data collection procedures used. Second, those same enthusiasts will have to be more precise about just how much cost saving is possible if bed stays or procedures are reduced when the large fixed cost component is not affected by such reductions. Complex review procedures may cost more than they save in variable costs; simpler procedures may be cost effective.

Pious Aspiration 2

Rehabilitation and prevention always have been given lip service as solutions to long-term cost control. With various studies showing benefits-to-cost ratios of 8:1 for rehabilitation programs, it has never ceased to amaze me that health insurance programs rarely include preventive services aimed at reducing disability in the future. Part of the problem is that few nations have identified the preventive services which have the largest payoff for reduction of disability and impairment. Politicians need to see those data before the public sector changes the balance of dollars going to cure and to prevention. But to change that situation at least requires the economist and the epidemiologist to get together to indicate the areas of highest payoff. How ready are both these disciplines to attack jointly this interdisciplinary problem and in what research forums?

Pious Aspiration 3

Any cost containment effort that does not start to look at medical fee structures and fee-bargaining processes is incomplete. With other health professions in the catch-up phase (such as nursing) and with professional health incomes in most nations rising faster than those of other professions, most nations ultimately will be forced to act to restrain this growth. In short supply are cross-national research data on the relative merits of the process of determination of different fees and little has been written on the value of wage and tax indexation of fees in line with various price indicators. There are even less data on the process of collective bargaining and negotiations; health organization theorists have much to contribute here. Who will initiate these international comparisons requiring more detailed data than are now available?

Pious Aspiration 4

Ethics and economics are rare bedfellows these days. Ethics rarely has intruded into the usual discussions of how quality of care is affected adversely by economic stringency. I wonder whether the resolution of the debate about health cost and quality will not ultimately be approached from ethical prospectives. What ethical principles are offended by unnecessary surgery and procedures, extension of hospital stay, and heroic life prolongation? Who will promulgate these issues and, internationally, who will help to resolve them?

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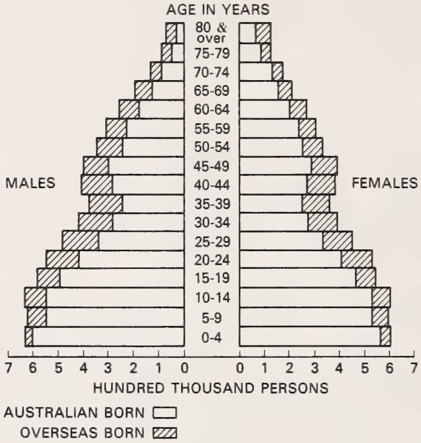
APPENDIX

TABLE A-1

DEMOGRAPHY AND HEALTH STATUS INDICATORS



Population by Age Group: Australia Census, 1971

Population June 1973: 13,132,000
Annual Growth Rate 1961-71: 1.93%; 1972: 1.42%

SOURCE: Australian Bureau of Statistics

As a result of continued population growth and despite low rates of mortality, the median age of the Australian population, 27.52, is low. In 1971, 37.5 percent were aged under 20, 50.2 percent were ages 20-59, and only 12.3 percent were aged 60 or over. In a stationary population with present rates of mortality the proportions would be 28, 52, and 20 percent.

TABLE A-1 (Cont.)

Mortality Rates and Comparative Expectation of Life at Birth—Selected Countries, Year Ended December 31, 1971

Country	Crude death rate[a]	Infant mortality rate[b]	Neonatal mortality rate[c]	Expectation of life at birth		
				Year	Male	Female
Australia	8.7	17.3	12.2	1965–67	67.63	74.15
Austria	13.1	26.1	19.0	1970	66.34	73.52
Canada	7.3	18.8[d]	13.5[d]	1965–67	68.75	75.18
Denmark	9.8[d]	14.2[d]	11.0[d]	1968–69	70.70	75.60
England and Wales	11.6	17.5	11.6	1968–70	68.60	74.90
France	10.8	17.3	NA	1969	67.60	75.30
Ireland	10.6	18.0	12.0	1960–62	68.13	71.86
Italy	9.6	29.4	20.4[d]	1964–67	67.87	73.37
Japan	6.6	12.4	8.7[d]	1968	69.05	74.30
Sweden	10.2	11.0[d]	9.1[d]	1967	71.85	76.54
United States	9.3	19.2	14.3	1970	70.8[e]	

[a] Number of deaths registered per 1000 mean population.

[b] Number of deaths of live-born children within 1 year of birth per 1000 live births.

[c] Number of deaths of live-born children within 28 days of birth per 1000 live births.

[d] 1970 figures.

[e] Total male plus female.

NA — not available.

SOURCES: Australian Bureau of Statistics, *Deaths Bulletin*, 1971; *United Nations Demographic Year Book*, 1971; *WHO Statistical Report*, vol. 25, no. 12, 1972.

Major Causes of Death—Australia 1972
Expressed As Percentages of All Causes for Specific Age Groups

Cause of Death	Age Group (years) 1–4	5–14	15–24	25–44	45–54	55–64	65–74	75+
Ischemic heart disease	—	0.1	0.3	14	30	37	37	31
Neoplasms	10	20	7	20	26	25	21	12
Cerebrovascular disease	0.3	0.8	1	6	8	10	14	21
Accidents	39	45	64	23	7	3	2	3
Suicide	—	0.6	9	11	4	1	0.5	0.2
Other	51	34	18	26	24	23	25	32

TABLE A-2

SUMMARY DATA ON AUSTRALIAN HEALTH SYSTEM

System Component	Relevant Data
I. Organization	
1. Hospitals	State-run, regionally planned in most states. Some federal-state joint capital works planning through Hospital Development Program
2. Medical practice	1. 60% private practice (40% in GP), 40% salaried (see III below), of which 32% in administration, public health, and teaching research 2. Of GPs, 40% solo; 50% in 2-4 partnerships, 10% in 5+ groups (about 35% in group practice by U.S. definition of "3 or more")
3. Teaching and research	Control mainly through Universities Commission and teaching hospitals
4. Public health practice	State-run (with exception of quarantine), limited mainly to domestic and industrial hygiene, licensing of personnel, and supervision of legislation governing food/drug distribution and purity; personal preventive services for diagnosis of infectious disease, and maternal and child health preventive care
5. Allied community health services	State-run community health services, with regional planning on integrated basis and support (as from 1976) with federal block grants
II. Financing and payment	
1. Hospital financing	1. 50-50 federal-state cost sharing of operating costs under Medibank, no outpatient coverage 2. Public hospital construction costs from Hospitals Development Program. Needs basis, with state baselines for matching financing. Joint federal-state Hospitals Works Councils
2. Private nursing homes	Separate nursing home benefits plus pensions of residents
3. Allied community health services	Community health program from 1973 (90% capital costs, 75% operating expenses) plus other programs for home care, paramedical aides, etc.
4. Private medical practice	1. Fee-for-service payment or bulk billing under Medibank 2. Salaried payment for full-time hospital specialists
III. Manpower	
1. Doctors	1. 17,900 in mid-1972 or 1:792 persons, with state ratios ranging from 1:554 (Australian Capital Territory) to 1:1028 (Northern Territory) 2. 75.6% Australian-trained, 11.2% United Kingdom, 6.7% Asia, and 3.9% other countries
2. Nurses	1. 1966-68 data: 102,450, of which 62,645 are professional nurses, 14,592 professional nurse students, 20,512 auxiliary nurses; 3,776 auxiliary nurse students; 925 nurse-midwife students

TABLE A-2 *(Cont.)*

2. 1971 census: 131,241, of which 56,565 (43.1%) are active and 97% female

3. Dentists

1971 estimates: 4,125 (or 1:3000 persons), rising to 5,226 in 1972-73; 74% self-employed.

4. Other health manpower

1. Pharmacists (1972): 13,000 (or 1:1000 persons vesus 1:1600 in United States)

2. Rehabilitation therapists
   a. Physiotherapy (1973): 1,180 active; 463 inactive
   b. Occupational therapy (1973): 335
   c. Speech therapy (1973): 124

3. Optometrists (1974): 960 or 1:14,030 (cf. 1:9870 in United States and 1:9120 in United Kingdom)

IV. Facilities

1. Acute hospital beds

1. *National Survey Data 1972-73*

	Public		Private		Total	
Size	No.	%	No.	%	No.	%
0-50	8,757	15.5	3,774	36.0	12,531	18.7
51-100	7,203	12.8	3,125	29.8	10,328	15.4
101-200	11,133	19.7	1,934	18.4	13,067	19.5
201-500	16,168	28.6	1,651	15.7	17,819	26.6
501+	13,217	23.4	—	—	13,217	19.7
Total	56,478	100.0	10,484	100.0	66,962	100.0

2. Location of beds: 77% of all beds in metropolitan areas and 92% of those outside are located in public hospital

3. State bed-population ratios range 6.3-7.7/1000; average 7.0 for nation, of which 95% are hospital benefit beds

4. Use of hospital benefit beds: 66.5% general; 3.0% geriatric; 8.7% pediatric; 2.6% psychiatric; 12.9% obstetric; 1.2% neonatal; 5.1% other

2. Nursing home beds

1. Approved nursing home beds June 30, 1973: 53,416 (or 50.2 beds per 1000 population aged 65+, ranging from 2.9 to 62.0 in different states and territories)

2. Approved hospital beds for the aged (January 1974): 18,298 (or 17.8 per 1000 persons aged 65+, ranging from 6.0 to 68.1 in different states and territories)

3. Mental health beds

1962-63: 3.0 per 1000 population; 1971-72: 2.1 per 1000 population (ranging from 1.5 to 2.6)

TABLE A-2 *(Cont.)*

V. Use of health services

1. Acute hospital beds: Selected indicators 1962-63 to 1970-71:

Year ended June 30	No. of approved hospital beds per 1000 population	No. of inpatients treated per 1000 population	No. of days hospitalization per 1000 population	Average length of stay (days)	Percentage occupancy of beds	Government assistance as percentage of total income	Federal hospital benefit, as percentage of total income	$ cost per bed day (including outpatients' costs)
				Public hospitals				
1964[a]	5.2	113.9[b]	1,276	10.7[b]	67.4	55.5	13.4	15.21
1965	5.2	117.9[b]	1,289	10.5[b]	67.3	55.4	12.6	16.14
1966	5.2	118.3[b]	1,296	10.6[b]	67.0	56.9	12.1	17.32
1967	5.2	124.6	1,291	10.3	67.1	54.5	12.0	19.24
1968	5.2	126.8	1,302	10.3	68.5	53.2	12.5	20.81
1969	5.1	129.8	1,309	10.1	69.4	54.7	11.4	23.08
1970	5.0	133.2	1,310	9.8	70.8	56.1	10.0	25.59
1971	5.0	135.3	1,297	9.6	71.0	59.5	8.6	30.68
				Public and private hospitals				
1968	6.2	159.3	1,558	9.8	68.1	47.4	12.6	NA
1969	6.1	163.8	1,567	9.6	69.5	48.5	11.5	NA
1970	6.1	167.9	1,566	9.3	70.4	50.0	10.1	NA
1971	6.1	175.3	1,556	8.9	70.3	52.9	8.7	NA

[a] Excludes Australian Capital Territory and Northern Territory.
[b] Excludes Queensland.
NA — Not available.

SOURCE: Australian Department of Health.

2. Public hospital costs 1967-68 to 1971-72

Increases in Public Hospital Costs Compared With Rises in the Consumer Price Index and Average Weekly Earnings—1967-68 to 1971-72

	Consumer price index		Average weekly earnings		Public hospitals	
Period	Index	% Increase	$	% Increase	Total maintenance costs ($m)	% Increase
1967-68	103.3	—	65.30	—	324.4	—
1968-69	106.0	2.6	70.20	7.5	366.9	13.1
1969-70	109.4	3.2	76.10	8.4	425.3	15.9
1970-71	114.6	4.8	84.50	11.0	514.8	21.0
1971-72	122.4	6.8	93.00	10.1	620.0	20.4
Total % increase		18.5		42.4		91.1
Average annual rate		4.4		9.3		17.6

SOURCE: HHSC: *A Report on Hospitals in Australia*, 1974.

TABLE A-2 *(Cont.)*

3. Medical services use and unit costs 1964-65 to 1973-74

Services Received by Contributors to Registered Medical Benefits Organizations (Fee-for-Service Organizations Only)—1964-65 to 1973-74

Year ended June 30	Number of services received (thousands)	Percentage of GP consultations[a] to total number of services	Average number of services per contributor	Average number of services per person covered	Average $ cost per service[b]
1965	25,847	70	8.3	3.2	4.02
1966	28,210	69	8.7	3.3	4.20
1967	29,269	68	8.7	3.4	4.48
1968	31,991	63	9.4	3.7	4.67
1969	34,134	63	9.7	3.8	4.87
1970	38,076	62	10.4	4.2	5.13
1971	39,555	62	10.3	4.1	6.04
1972	43,184	60	11.0	4.4	6.79
1973	47,940	58	11.8	4.7	7.10
1974	47,421	57	11.4	4.5	7.65

[a] General practitioner surgery consultations and home visits.

[b] Average cost per matched service only as from 1967-68. (A matched service is one for which both Commonwealth benefit and fund benefit are paid.)

SOURCE: Department of Social Security, *Annual Report 1973-74*, p. 108.

4. *Medical Services Sharing of Costs 1964-65 to 1973-74*

Year ended June 30	Total $ cost of matched services[a] (thousands)	Percentage of total cost met by fee-for-service organizations: Commonwealth benefit	Fund benefit	Insured member
1965	104,624	32.9	35.2	31.9
1966	119,021	33.9	35.7	30.4
1967	131,770	32.2	35.5	32.3
1968	141,982	32.0	35.4	32.6
1969	157,862	30.2	35.1	34.7
1970	183,406	28.9	35.6	35.5
1971	224,674	39.6	36.0	24.4
1972	275,551	44.5	36.6	18.9
1973	318,632	45.9	36.4	17.7
1974	340,539	43.8	36.7	19.5

[a] As from 1969-70 the total cost excludes services by contract organizations. During the year 1973-74 there were 140,894 matched services covered by contract organizations, the total cost being $553,991.

SOURCE: Department of Social Security, *Annual Report 1973-74*, p. 110.

TABLE A-2 *(Cont.)*

5. Pensioner Medical Services Use by the Aged 1964–65 to 1973–74

Year Ended June 30	Number of pensioners and dependents enrolled at June 30 (thousands)	Percentage of population enrolled	Number of medical services			Average number of medical services per enrolled person
			Surgery	Domiciliary (thousands)	Total	
1965	849	7.5	4,389	2,859	7,248	8.6
1966	1,006	8.8	4,670	2,824	7,494	8.4
1967	1,043	9.0	5,215	2,972	8,187	8.0
1968	1,115	9.3	5,757	2,898	8,655	7.9
1969	1,164	9.5	6,291	2,866	9,157	8.1
1970	1,187	9.5	6,761	2,796	9,557	8.2
1971	1,217	9.5	7,157	2,783	9,939	8.2
1972	1,255	9.7	7,545	2,728	10,272	8.3
1973	1,351	10.3	8,393	2,715	11,108	8.6
1974	1,401	10.5	8,455	2,480	10,934	7.9

1973–74 data: 6,084 participating doctors who were paid $35.4 million or $5,250 per doctor and $25.58 per enrolled person.

Per capita usage under Medical Benefits up 40% while Pensioner Medical Service usage remained fairly steady.

SOURCE: Department of Social Security, *Annual Report 1973–74*, p. 112.

6. Pharmaceutical benefits use and costs

Number of Benefit Prescriptions and Average Cost
States and Territories 1973–74

State or territory	Benefit prescriptions			Average cost per benefit prescription		
	General	Pensioner (thousands)	Total	General $	Pensioner $	Total $
New South Wales	22,276	11,225	33,501	2.82	2.37	2.67
Victoria	16,803	6,622	23,426	2.78	2.41	2.68
Queensland	8,655	4,573	13,228	2.75	2.32	2.60
South Australia	5,084	2,618	7,702	2.74	2.36	2.61
Western Australia	4,206	1,854	6,060	2.69	2.36	2.59
Tasmania	1,542	790	2,333	2.72	2.40	2.61
Australian Capital Territory	762	94	856	2.83	2.49	2.79
Northern Territory	170	11	182	2.79	2.61	2.78
Australia	59,500	27,788	87,288	2.78	2.37	2.65

SOURCE: *Annual Report of the Director-General of Health 1973–74.*

TABLE A-2 *(Cont.)*

6. Pharmaceutical benefits use and costs *(Cont.)*

Number of Benefit Prescriptions per Person and Average Cost per Person 1964–65 to 1973–74

Year ended June 30	Benefit prescriptions per person			Average cost per person		
	General population[a]	Pensioner population[b]	Total population	General population[a] $	Pensioner population[b] $	Total population $
1965	3.23	16.42	4.22	6.30	25.57	7.74
1966	3.31	16.66	4.35	6.65	26.91	8.23
1967	3.44	16.59	4.59	7.02	28.68	8.91
1968	3.43	16.81	4.65	6.96	29.39	9.02
1969	3.67	17.61	4.97	7.64	32.31	9.94
1970	3.92	18.46	5.29	8.47	35.25	10.98
1971	4.28	18.69	5.65	9.83	37.50	12.46
1972	4.16	19.40	5.62	10.81	42.33	13.82
1973	4.16	19.74	5.71	11.65	45.41	14.98
1974	5.00	20.99	6.60	13.89	49.77	17.48

[a] Population excluding persons eligible to receive pensioner pharmaceutical benefits.
[b] Population of persons eligible to receive pensioner pharmaceutical benefits.

Pensioner Medical Service scripts (which are free) went up 28% while scripts which cost the patient money went up 54%.

SOURCE: *Annual Report of the Director-General of Health 1973–74.*

Cost of Pharmaceutical Benefits 1964–65 to 1973–74
($ thousands)

Year ended June 30	Australian government payments			Patients' contributions on general benefit-prescriptions	Total cost of benefit prescriptions	Australian government payments to public hospitals and through miscellaneous services	Total cost of pharmaceutical benefits	Total Australian government payments
	Benefit prescriptions							
	General[a]	Pensioner[b]	Total					
1965	48,930	21,564	70,494	16,841	87,336	11,708	99,044	82,203
1966	53,078	24,071	77,149	17,481	94,630	14,635	109,265	91,784
1967	56,656	29,280	85,936	18,347	104,283	15,344	119,628	101,281
1968	56,800	32,115	88,915	18,504	107,420	16,219	123,639	105,134
1969	64,025	36,609	100,634	20,129	120,764	17,739	138,503	118,373
1970	73,228	41,069	114,297	21,942	136,238	22,422	158,660	136,718
1971	88,176	45,181	133,357	24,384	157,741	26,918	184,659	160,275
1972	90,062	52,005	142,067	35,467	177,534	31,201	208,735	173,268
1973	87,431	58,139	145,571	48,640	194,211	32,062	226,273	177,633
1974	108,066	66,803	174,869	59,015	233,885	43,427	277,311	218,296

[a] Benefit prescriptions supplied to persons other than those eligible to receive pensioner pharmaceutical benefits.
[b] Benefit prescriptions supplied to persons eligible to receive pensioner benefits.

SOURCE: *Annual Report of the Director-General of Health 1973–74.*

TABLE A-2 *(Cont.)*

7. Adherence to medical fees schedule

Percentage Level of Observance of the Schedule Fee by States
Quarters Ended June 30, September 30, December 31, 1973, and March 31, 1974

	New South Wales				Victoria				Queensland			
Service	June 1973	Sep. 1973	Dec. 1973	March 1974	June 1973	Sep. 1973	Dec. 1973	March 1974	June 1973	Sep. 1973	Dec. 1973	March 1974
General practitioner												
Surgery	67	59	40	59	65	56	38	62	69	61	33	33
Home visits	28	26	23	34	60	56	34	35	60	56	30	36
Specialist												
Initial consultations	62	58	46	39	78	76	56	45	88	83	50	36
Subsequent consultations	49	46	38	33	63	62	46	41	79	75	44	30
Consultant physician												
Initial consultations	88	83	68	62	73	68	49	35	86	78	34	18
Subsequent consultations	71	68	56	44	61	57	46	45	89	83	42	28
Obstetrics	76	78	66	53	78	78	61	41	69	62	43	28
Anesthetics	89	88	73	66	76	77	62	58	88	86	65	59
Miscellaneous procedures	73	71	60	52	67	60	44	40	76	70	45	37
Pathology	94	92	88	85	90	85	58	57	89	83	34	25
Radiology	87	82	70	65	87	79	63	61	44	41	35	32
Assistance at operations	81	79	64	54	77	76	63	48	89	86	60	47
Operations	81	79	62	52	75	72	53	44	78	74	45	36
Whole of schedule	69	64	50	59	69	62	43	57	72	65	35	32

	South Australia				Western Australia				Tasmania			
Service	June 1973	Sep. 1973	Dec. 1973	March 1974	June 1973	Sep. 1973	Dec. 1973	March 1974	June 1973	Sep. 1973	Dec. 1973	March 1974
General practitioner												
Surgery	84	74	35	73	89	81	49	48	65	58	49	73
Home visits	70	64	28	72	56	54	35	41	49	43	36	63
Specialist												
Initial consultations	80	74	45	37	49	46	30	21	67	60	27	18
Subsequent consultations	75	65	42	36	63	59	44	36	64	60	34	29
Consultant physician												
Initial consultations	84	81	52	40	81	79	51	39	80	79	57	50
Subsequent consultations	74	76	56	48	85	82	70	62	74	75	75	71
Obstetrics	65	68	48	47	80	81	60	47	69	67	53	22
Anesthetics	87	87	75	72	85	83	64	59	78	73	44	23
Miscellaneous procedures	72	73	66	68	89	86	72	67	72	83	43	34
Pathology	98	98	98	98	96	90	74	71	86	84	71	69
Radiology	93	93	94	91	93	87	69	64	91	86	63	63
Assistance at operations	91	91	87	87	91	87	75	68	86	79	65	55
Operations	81	83	79	80	82	79	60	50	79	73	49	48

SOURCE: Department of Social Security, *Annual Report 1973–74*, p. 111.

TABLE A-3

CHRONOLOGY OF MAJOR REFORMS IN AUSTRALIAN HEALTH CARE AFFECTING COSTS, EXPENDITURES, AND ORGANIZATION

Year	Outline of Reform
1967	Starr report, New South Wales, recommending decentralization of state health services to regional administration.
1969	Commonwealth Committee of Inquiry into Health Insurance (Nimmo report) reported that operation of health insurance scheme was unnecessarily complex and that benefits were much less than cost of treatment; operating costs and reserves of medical benefits funds were too high.
1970	Revision of medical component of national health scheme by reducing gap between medical benefit refunds and cost of medical care by introduction of new scale of benefits based on "most common fee" charged for over 1,000 specified medical services. Fee not to exceed benefit by more than $5.00; for GP services, patient expected to meet $0.80 and $1.20 of common fee for consultations and home visits, respectively. Gap insurance permitted.
1970	Subsidized Health Benefits Plan introduced to assist low-income families; Social Security beneficiaries receiving unemployment, sickness, or special benefits; and newly arrived migrants with cost of health insurance. Also subsidized pharmaceutical benefits $0.50 for each benefit prescription instead of usual $1.00.
1971	Senate Select Committee on Medical and Hospital Costs identified 10–15% of population without insurance at any time.
1972	Reorganization of health services in New South Wales under a single Health Commission, with 14 regional administrators.
1973	Initiation by new National Hospitals and Health Services Commission (HHSC) of Community Health Program for the development of out-of-hospital services, generally on a regional basis.
November 1973	White paper on proposed new universal health insurance scheme (Medibank).
1974	Initiation by HHSC of new Hospitals Development Program.
July 1975	Introduction of universal national health insurance scheme (Medibank), through a national Health Insurance Commission, with following features: A. Medicine 1. Payment by bulk billing by formal assignment of patient or his agent, by pay doctor check and reimbursement of fee-for-service payments made by patient. 2. Existing interstate differences in fees and benefits retained. 3. Measures to secure doctors' adherence to fee schedule deferred, except for notification to patients when fees charged exceeded schedule. B. Hospital 1. Simple 50–50 sharing by federal and state of all net operating costs. 2. Standardized, free public-ward care for "hospital" payments. 3. Outpatient services provided by recognized hospitals free of charge and without means test (with some states having means test for dental treatment).

TABLE A-3 *(Cont.)*

	4. Free prescription drugs to hospital inpatients and outpatients at recognized hospitals. Private patients at recognized hospitals or in private hospitals are charged for drugs (in the private hospitals at rates which hospital or private pharmacist considers "appropriate"—no Commonwealth control over prices for drugs not eligible for pharmaceutical benefits). 5. Salaried and sessional payments for treatment of "hospital" patients, but provision for contracts involving other methods of payment for agreed circumstances. 6. 60% increase ($10/day to $16/day) in bed payments to private hospitals and no obligation to provide diagnostic services through hospital. 7. Religious and charitable hospitals can accept "hospital patients" free of charge, with full costs of treatment and accommodation being met by daily bed subsidy direct to hospital. C. Administrative 1. Private medical insurance allowed, up to gap between benefits and scheduled fees. 2. Some regulation of private insurance funds in respect of hospital insurance, particularly in use of excess reserves. 3. Health Insurance Commission to handle processing of claims but not policy (which resided in two divisions in Department of Social Security). 4. Private health funds and pharmacies offered agencies for Medibank cash payment and claims lodging outlets. 5. National Health Act (including special account subsidies) continued to finance Medibank from general revenue, following rejection of bills proposing a health insurance levy of 1.35%.
May 1976	Government announces proposals to amend Medibank by (a) Medibank tax levy (2.5%) as part of significant change in taxation structure; and (b) encouraging entry of private health insurance for incomes above about $12,000 while retaining Medibank operations.

TABLE A-4

NATIONAL HEALTH EXPENDITURE BY TYPE OF EXPENDITURE AND SOURCE OF FUNDS 1972

	Australia, 1972–73						United States, F.Y. 1972					
	Source of Finance			% Composition		Col. 3 as % of Row 12	Source of Finance			% Composition		Col. 9 as % of Row 12
	Public 1	Private 2	Total 3	Public 4	Private 5	6	Public 7	Private 8	Total 9	Public 10	Private 11	12
Institutional												
General hospital	555	257	812			35.3						
Mental hospital	89	9	98			4.2						
Nursing homes	116	48	164			7.1						
Other	8	47	55			2.4						
Total	768	361	1,129	68.0	32.0	49.1	17,193	15,267	32,460	53.0	47.0	40.9
Other medical care												
Government and charitable	23	2	25			1.1						
Medical	206	207	413			18.0						
Dental and other professional	6	143	149			6.5						
Medicaments	166	232	398			17.3						
Other	9	46	55			2.4						
Total	410	630	1,040	39.4	60.6	45.3	10,332	32,398	42,731	24.2	75.8	53.9
Public health	87	2	89	97.8	2.2	3.9	2,100	—	2,100	100.0	—	2.6
Teaching and research	34	6	40	85.0	15.0	1.7	1,834	195	2,029	90.4	9.6	2.6
Total, all services	1,299	999	2,298	56.5	43.5	100.0	31,459	47,860	79,320	39.7	60.3	100.0
Construction of facilities	NA	NA	160				1,398	2,700	4,098	34.1	65.9	
Total all expenditures			2,460				32,857	50,560	83,417	39.4	60.6	

NA — not available

SOURCE: J. Deeble, "The Health of the Nation—Who Pays?" *in* J. Birman (ed.), *The Health Problems of the Nation*. Perth: University of Western Australia Extension Service; CED 1973 (see Figure 1).

TABLE A-5

CURRENT HEALTH EXPENDITURE 1975–75 (ESTIMATED, IN MILLIONS[a])

Type of Care	Commonwealth	Local and State	Total	Compulsory Insurance	Voluntary Insurance	Reciprocal Insurance	Other	Total	All Sources
Institutional									
General hospitals	285	826	1,111	30	290	118	—	438	1,549
Mental hospitals	5	172	177	—	—	14	2	16	193
Nursing homes	180	30	210	—	10	66	2	78	288
Other	41	14	55	—	52	17	4	73	128
Total	511	1,046	1,557	30	352	211	8	601	2,158
Other medical care									
Government and charitable	20	28	48	—	—	—	2	2	50
Medical	285	—	285	33	190	100	—	323	608
Dental and other professional	9	3	12	—	—	195	—	195	207
Medicaments	289	—	289	—	—	310	—	310	599
Other	26	—	26	—	—	—	—	—	36
Total	627	31	660	33	190	605	2	830	1,490
Public health	37	60	97	—	—	—	2	2	99
Teaching and research	11	26	37	—	—	—	8	8	45
Total, all health services	1,188	1,163	2,351	63	542	816	20	1,441	3,792

[a] All figures rounded.

SOURCE: Unpublished data, Department of Health, 1976.

11

COST SHARING AND COST CONTAINMENT IN THE NETHERLANDS

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The following authorities are involved in calculating costs of health care in the Netherlands:

The Central Bureau of Statistics (Centraal Bureau voor de Statistiek, CBS) is a department of the Ministry of Economic Affairs and issues a periodic cost appraisal relating to all health care. In compiling these appraisals, use is made of collective information from the Mutual Sick-Funds Council, the National Hospital Institute, and the Central Organ for Hospital Tariffs, as well as of statistics relating to the spread of income and of data derived from organizations in social health care. When the only available figures are those extracted from the Mutual Sick-Funds Council, costs incurred by nonmember patients are derived from these. Summaries on expenditure, published every 5 years from 1953 to 1968 and every 2 years since then, include details about preventive and curative health care, training, and scientific research. Cost data are processed and expressed as a percentage of the gross national product (GNP) at market prices.

The Mutual Sick-Funds Council (De Ziekenfondsraad, ZFR) controls Mutual Sick Funds (which are entrusted with administration of mutual health care cost insurance) and other insurance companies, insofar as they are financing health care under the Act for Special Sickness Costs (AWBZ). ZFR controls the area of curative health care insofar as this is financed through the Social Security system. It has at its disposal data concerning fees for doctors and independent paramedical workers and compensation for health care institutions.

The National Hospital Institute (National Zeikenhuisinstituut, NZI), a private organization, was founded under the auspices of the National Hospital Council, a master organization of institutes concerned with inpatient health care. It conducts research in inpatient health care and, because of this, organizes annual inquiries into costs incurred by institutes in the inpatient care sector. This inquiry is organized in cooperation with the CBS. In assessing control of expenditures in hospitals and similar institutions, interest and depreciation are taken into account. Depreciation is calculated on the basis of historical value.

The Central Organ for Hospital Tariffs (Het Centraal Orgaan Ziekenhuistarieven, COZ) fixes fees for inpatient institutes in the health care sector and has at its disposal important figures concerning cost and fee developments in these institutions.

The Hospital Provisions Board (Het College Ziekenhuisvoorzieningen, CZV) is an official body which advises the Minister of Public Health and Environmental Hygiene about building and equipping hospitals within the framework of the Hospital Provisions Act. This board oversees the building costs of inpatient establishments for health care.

The Central Board of Public Health (Centrale Raad voor de Volksgezondheid, CRV) is a governmental advisory body involved mainly with the functioning of health care. It recently has published reports concerning present and future cost developments in health care. In these reports an attempt is made to further establish the financial outcome of certain governmental policies.

The Central Planning Office (Centraal Planbureau, CPB) is concerned with programming the Dutch economy and has developed models for cost development of health care, notably for the provision of drugs. The agency cooperates with CRV in making prognoses of health care costs.

The Ministry of Public Health and Environmental Hygiene (Het Ministerie van Volksgezondheid en Milieuhygiene, VOMIL) is concerned with cost developments in health care and has performed research in this field.

The above-mentioned offices have formed a working group, the Cost Development Health Care Committee, to compare cost calculations from different institutions and, if possible, to bring these different calculations into line with each other.

Some Methods of Analyzing Health-Care Costs: Volume and Quantity

The Cost Development Health Care Committee has chosen the analysis of costs of health care in price and quantity as its first topic of study. The following methods are applied.

Central Bureau of Statistics methodology. CBS calculates a price index figure for costs of medical care in the sphere of the consumption price index for families. This price index is calculated on the basis of the price development in five sectors of health: inpatient health care, doctor's fees in free practice, maternity nursing, drugs, and medical appliances. These sectors include 85 percent of health care costs. The volume index is calculated by dividing the value index by the price indexes. The volume is corrected for growth in population (see Appendix 1).

Central Board of Health and Central Planning Office methodology. CRV and CPF derive their price index figures for health care from the price development of the costs in health care. For all sectors of public health, costs are split into two categories: wage costs and remaining costs. It can be assumed that wage costs develop on an equal level, such as the wage sum per employee in industry, and that the remaining costs follow the development of the consumer price index.

From the basic year 1968, it can be calculated from these assumptions what the development of costs would have been if no alterations occurred in the quantity and composition of applied production factors, wages, and other. The effect of possible alterations can be estimated by dividing the real cost amounts after 1968 by the calculated amounts.

It is possible that the price of the wage sum or the remaining costs in the health care sector does not develop as it does in other sectors of social production. If, for example, the price rise of the component is underestimated systematically, then the overall price rise is underestimated, and the volume rise is overestimated.

The results of these estimations for 14 sectors of health care are given in Appendix 2.

Ministry of Public Health and Environmental Hygiene methodology. VOMIL calculates the volume development in health care based on the development in the amount of beds in inpatient health care and the development of labor potential in health care.

An estimation then is made relating to volume development in the use of drugs and medical appliances. VOMIL has chosen this starting point because the development in the number of beds is a direct point of contact with its present policy. The results of this type of estimation are given in Appendix 3.

One can see that the costs of health care are influenced by price rises to an important degree. These price rises are caused by inflation and by slow development in labor productivity, a characteristic of the service sector in national production. This price component, for a considerable part, cannot be influenced by health care itself.

In all developed countries the costs of health care rise more quickly than in other sectors of social production and continually demand a greater part of the national income. The scope for cost containment in health care is limited by the possibility of influencing volume development. The volume development includes qualitative as well as quantitative components which, between them, are difficult to analyze closely. In this way inpatient provisions increase, both in the number of beds and because the quality of accommodation also improves. Continually more emphasis is put on training and forming the working potential and in this way the working potential increases quality as well as in quantity.

These three methods of estimation lead to different outcomes (see Table 1).

CBS perhaps underestimates the volume rise because quality elements presumably will be taken up in the price development of the different components of health care.

TABLE 1

THE RESULTS OF DIFFERENT ESTIMATION TECHNIQUES FOR THE PERIOD 1968-73

	Volume	Price	Value
CBS	137	173	238
CRV-CPB	142	168	238
VOMIL	131	181	238

In the CRV-CPB approximation, the volume rise possibly is overestimated because the price index figure of the particular consumption and the wage index in other sectors of social production are lower than in health care.

VOMIL underestimates the volume development because, besides the development in the quantities, improvement in the quality also must be seen as volume development.

Policy Options to Reduce Health Care Costs

The costs of health care have risen sharply in the Netherlands. Table 2 gives an appraisal of cost development over the years 1968, 1970, 1972, and 1973. The percent shares of different categories in total costs have been inserted in the cost figures as well as the rank order of the different sectors within cost development.

The costs in health care are arranged in three large groups: The first group relates to first-line health care, which is directly accessible to every patient; the second group relates to the second-line health care, accessible solely from the first-line health care; the third is a rest group.

The second-line health care, to an important degree, has a bearing upon inpatient health care, including costs of special medicine. The share of costs in health care expressed in percent of the GNP at market prices rose from 5.9 percent in 1968 to 7.5 percent in 1973. The second group, inpatient health care, had an important share in this cost rise. In 1972 it accounted for 61.9 percent of the total costs.

This strong cost development has resulted in part from a rise in nursing homes and homes for the mentally retarded, since much attention was centered on chronic patients in the Netherlands during this time. In order to finance these provisions, the General Act for Special Sickness Costs, into which all risks for every citizen have been accommodated, was set up in 1968. Before the introduction of public insurance, financing these provisions was accomplished by a mutual assistance act on behalf of those who could not finance these heavy costs from their own incomes.

This sharp cost increase concerns the government, and one must think about ways to acquire more control over this cost development.

In order to prevent further crumbling away of employment and still allow a rise in real available income per employee, the annual rise of collective rates and taxes will be limited to 1 percent of the GNP. Taxes, social premiums, and various public income elements, notably natural gas, will be involved in this. In this credit squeeze the health sector will assume an important place.

In the Memorandum on the Structure of Health Care, the intention to limit the 1980 allocation to health care to 8 percent of the GNP has been made known. This stress on cost control takes priority in the limitation of inpatient health care.

TABLE 2

HEALTH CARE COSTS IN MILLION OF GUILDERS

	1968		1970		1972		1973		Rank
Type	abs.[a]	%	abs.[a]	%	abs.[a]	%	abs.[a]	%	order
General social health care	313	5.9	456	6.3	585	5.5	672	5.4	7
Mental ambulatory health care	34	0.6	49	0.7	86	0.8	109	0.9	12
General practitioner care	365	6.9	431	5.9	563	5.3	626	5.0	8
Dental care	406	7.6	503	6.9	613	5.8	729	5.9	6
Drugs and medical appliances	673	12.7	932	12.8	1,338	12.6	1,521	12.2	2
Independent paramedical professionals	62	1.2	76	1.0	111	1.1	130	1.0	11
Subtotal	1,853	34.9	2,447	33.8	3,296	31.1	3,787	30.4	
Specialist care	588	11.1	764	10.5	1,136	10.7	1,401	11.2	3
General, academic, and categoral hospitals	1,557	29.3	2,210	30.5	3,260	30.8	3,781	30.3	1
Psychiatric hospitals	321	6.0	420	5.8	642	6.1	746	6.0	5
Nursing homes	260	4.9	471	6.5	940	8.9	1,187	9.5	4
Institutions for the mentally retarded	220	4.2	300	4.1	492	4.6	619	5.0	8
Subtotal	2,946	55.5	4,165	57.4	6,470	61.1	7,734	61.9	
Control and administration	270	5.1	357	4.9	465	4.4	531	4.3	9
Remaining	181	3.4	211	2.9	260	2.5	307	2.5	10
Protection of food and drinking water	56	1.1	75	1.0	100	0.9	118	0.9	12
Subtotal	507	9.6	643	8.8	825	7.8	956	7.7	
Total	5,306	100	7,255	100	10,591	100	12,477	100	
In percent of GNP at market prices	5.9		6.3		7.2		7.5		

[a]Absolute amounts.

The following guideline has been established for various institutions involved with patient health care: a decrease in the number of hospital beds from 5.43 to 4 per 1000 inhabitants. It seems to be especially difficult to check the potential in general hospitals to such a drastic degree. There often is resistance to closing or reducing these establishments, a procedure which has been made possible through recent legislation. If the present trend continues, the number of hospital beds will decrease annually by 200.

In psychiatric hospitals 1.5 beds per 1000 inhabitants is the goal. At present the total number of beds stands at 26,400. It is projected that the number in 1980 may be as low as 24,000.

For older people (age 65+) 1.2 beds per 100 plus 0.35 bed per 1000 inhabitants has been given as the standard number for nursing homes for somatic illnesses.

In homes for mentally disturbed older persons, 1.25 beds per 100 aged persons are projected.

By these standards, there should be 40,360 beds in 1975 and 43,400 beds in 1980. At the end of 1975 there were 40,800 available beds, so it can be projected that the goal for 1980 will be reached.

The standard for institutions for the mentally retarded is 1.8 beds per 1000 inhabitants. For 1980, 25,300 beds will have to be taken into account. At the end of 1974, there were 25,696.

To make this adjustment in existing beds possible, special attention will have to be given to the intensification of first-line health care. This can be done by expanding the number of general practitioners as well as by finding new forms in which medical practice can be skilled. Group practice can be introduced, as well as health care centers where professionals (e.g., general practitioners, nursing staff, physiotherapists, psychologists, social workers) from various disciplines work together to deliver patient care. Further attention should be paid to the intensification of ambulatory mental health care.

We still do not know whether intensification of first-line health care really can lead to less need for second-line health care. This assumption already is supported by the outcome of an econometric study in which use of beds in general hospitals is analyzed in relation to the number of general practitioners, number of beds in general hospitals, number of beds in academic hospitals, and the rate of sick-fund insurance of the population (*1*).

According to this econometric model, expanding the number of general practitioners will cause patients to indulge less in costly hospital care.

CRV has issued a report forecasting expected costs in health care in 1975 and 1980 in the case of unaltered and altered policy options. By unaltered policy, it is assumed that volume development will be placed in accordance with the development pattern in the past years (see

Appendix 4). In altered policy options the assumptions mentioned above will be taken into consideration.

In determining cost-trends, developments in the working productivity of these categories also are taken into consideration. Working productivity seems to have diminished for general practitioners and dental care and to have increased for specialists.

In determining costs for inpatient institutions the above-mentioned development in the number of beds is taken into consideration. The number of patient days to be expected on the basis of this development will be stated as costs. In addition to the development in the general price index figure, the special cost index figure for these institutions of inpatient care will be taken into account. The total cost of the use of drugs will be calculated on the basis of the outcome of a model calculated with respect to mutual sick-funds patients.

Thus, if changes in policy are not made, the costs of health care will rise to 11.1 percent of the GNP by 1980, while with the proposed changes this share can be reduced to 10.2 percent. This reduction is sought in the inpatient sector which requires a total return of 3,000,000,708 guilders. The total costs of health care drop by 2,980 billion guilders under these conditions. The share of the costs of the second-line health care drops from 68.9 to 64 percent of the total costs.

According to the report of the Central Board, limitation of costs in health care to 10 percent of GNP fits into the government's policy assumptions. The objective of the Memorandum on the Structure of Health Care to limit health care costs at 8 percent of the GNP, however, remains unattainable.

The echelons of health care have come to light in these published cost appraisals. In the Netherlands it is felt strongly that the patient attains entry into health care only through the first line. It is from the first-line care that the patient is referred to second-line care where costly treatments are supplied to the patient.

The Memorandum on the Structure of Health Care cites a second structure element, regionalization. In this the country would be divided into ruling units that would be entrusted with the health care of a certain sector. Based on national guidelines, health care needs are to be determined for the included regions and carried out in collaboration with workers and institutes of health care. Clear financial controls will be placed on these regional managements.

International Comparative Studies of Health-Care Costs

International comparative cost studies in the field of public health are very valuable. Attention can be drawn to the work of Abel-Smith (*2*) within the framework of the World Health Organization and to a publication of Robert Maxwell (*3*). Similar studies are important because they give insight into the status of health care in different countries. In this context it is interesting to note that in countries like the United States and Sweden, where health care policies differ strongly, costs appear to be comparable. On the other hand, costs are significantly lower in a country such as the United Kingdom.

The sharp rise in the cost of health care in all countries focuses attention on the fact that very fundamental forces are at work: forces that make one question the influence of different financial systems of health care on costs.

When cost comparisons are studied closely and in depth, great difficulties often are encountered because comparison of different systems requires profound knowledge of the issue at stake and it often is difficult to translate and compare them. For instance, at the University of Louvain we tried to compare health care costs for general practitioners in Belgium and the Netherlands. To get a good comparison it is necessary to analyze very accurately the practices of Belgian and Dutch doctors. The most profit, in my opinion, will be taken from as extensive as possible a comparison, but comparative studies are only appropriate for these countries which have similar economic and accounting systems. Perhaps international comparisons of health care costs can play a more important role in economies which cooperate in larger units, such as the European Economic Community.

Use of Pricing and Cost Sharing to Reduce Costs of Health Care

The policy of additional payments is used very little by patients in the Netherlands and is not very popular. Patients below a certain income level who are compulsorily or voluntarily insured by the sick-funds do not need to make additional payments. Only a small compensation is asked for certain forms of medical transport, for certain medical appliances, and for dental care if dental work is not carried out according to given instructions. Those who are admitted for extended inpatient care for chronic illnesses at the expense of the General Act for Special Sickness Costs have to pay a certain contribution per patient day, because no food costs are incurred during hospitalization. Persons above a certain salary cannot be insured by the Sick-Fund Associations and need to be insured elsewhere. Civil servants are not eligible for membership in sick-funds associations. Commercial as well as noncommercial funds insure this group. Hospital costs and costs for medical specialist care are insured with or without copayment by patients.

The services of general practitioners and the costs of drugs usually are only partly insured. Dental care is almost entirely uninsured. It is sometimes more profitable to insure a lower risk with copayment, because in the event of sickness one's high out-of-pocket expenses and the premium are tax deductible. High risk coverage is available for everyone via the General Act for Special Sickness Costs.

It has been established that numbers of sick-funds associations patients demand more hospital care and stay longer. The Foundation for Medical Registration found that the over-use of hospital services by insured persons in mutual sick-fund associations, as compared with private patients, increased from 27.6 percent for 1972, to 37.3 percent for 1973, and 42.8 percent for 1974. It is not completely clear which factors are responsible for this great difference between the two insurance groups. Where almost everyone is insured against hospital costs, little significance should be attached to the difference in insurance forms in analyzing these utilization differences. In this context, the presumption will be raised that social factors do have a greater influence than technical insurance factors. Where persons below a certain income level participate in sick-funds insurances, it is possible that aged persons and invalids are represented more strongly in the sick-funds association than in the whole population. In this context attention also can be given to possibly inferior circumstances of caring for patients at home. It is possible that different behavior patterns are followed for higher-paid and independently insured so far as reporting sick and resuming work are concerned. Finally, private patients may be referred to specialists by general practitioners less often than sick-funds patients.

In the Netherlands we do not feel that the introduction of "risk" insurance will limit strongly the demand for health care. Experience obtained abroad supports this.

In view of the predominantly constant expenditure pattern in health care, direct influence of deductibles and coinsurance seems possible only in the sector of drugs and help aids. Cost reduction by influencing the infrastructure needs time to become operative. Introduction of "own risk" insurance leads to administrative measures along with which costs are brought. If copayment is measured too lightly, these administrative costs will weigh too heavily. On the other hand, if copayment is inserted too heavily it will be possible to reinsure this risk and the limiting effect of an important part of this measure will disappear.

In the Netherlands insurance that includes copayment or deductibles probably will play a larger role in the future financing of health care because these factors tend to limit collective spending. In my view this will lead to shifting costs from the collective to the private sector, a measure that will have little effect on cost containment.

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APPENDIX I

FACTORS IN THE RISE IN HEALTH CARE COSTS

1. Growth of population

Average population	1953	1958	1963	1968	1970
Number of persons × 1,000	10,493	11,185	11,493	12,726	13,039
Index	100	107	114	121	124

2. The rise in wages and prices

Many problems exist in this field regarding standardizing quality and quantity of a great number of goods and services. Statistical data on quantities and prices concerning health care are less complete than those covering, for example, private households' incomes as a whole. Due to this circumstance an index rate for the costs of training and research could not be determined. For the combined preventive and curative health care the price index is as follows:

	1953	1958	1963	1968	1970
Costs of preventive and curative health care (1953 = 100)	100	143	206	373	477

3. Real expansion of goods and services for preventive and curative health care

	1953	1958	1963	1968	1970[a]	1970[b]
Cost (millions of guilders)	770	1,358	2,226	4,733	6,375	7,147
Value index	100	176	288	615	828	928
Price index	100	143	206	373	477	477
Quantum index	100	123	140	165	174	195
Quantum index per capita	100	115	123	136	140	157

[a] Excluding costs of nursing homes and institutions for mentally deficient.
[b] Including costs of nursing homes and institutions for mentally deficient.

The latter indexes show that the real expansion of goods and services in 1970 is 40% and 57% resp. above that of 1953, new parts excluded, resp. included. "Consumption" per capita and prices went up as follows:

1958 c.w. 1953[a] resp. 15% and 43%
1963 c.w. 1958[a] resp. 7% and 44%
1968 c.w. 1963[a] resp. 11% and 81%
1970 c.w. 1968[b] resp. 3% and 28%

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[a] Covering 5-year period.
[b] Covering 2-year period.

The basic data obtained from this study provide more detailed information, e.g., on the level of expenses of hospitals and mental hospitals, expenses and receipts of cross-associations, and the expenses of some categorical institutions for mental ambulant (nonclinical) health care.

APPENDIX II

VOLUME CALCULATIONS BY CRV AND CPB

In the table below a volume calculation of different sectors of health care is given on the basis of the period 1968-73. For nursing homes and institutions for the mentally retarded, the period 1971-74 is taken, because in the years 1968-73 a strong development has arisen here.

		Percent
1.	General social health care	4.2
2.	Mental ambulatory health care	12.2
3.	General practitioner care	-1.0
4.	Dental care	1.3
5.	Drugs and medical appliances	6.0
6.	Independent paramedical professionals	4.2
7.	Specialist care	6.6
8.	General, academic, and categorical hospitals	7.1
9.	Psychiatric hospitals	6.0
10.	Nursing homes	14.5
11.	Institutions for mentally retarded	8.0
12.	Control and administration	2.3
13.	Remaining	-0.1
14.	Protection of food and drinking water	3.7

APPENDIX III

Variation in the total capacity of beds has a very great effect on the development of volume. Table A-1 gives a survey of the total bed capacity in 1964, 1968, and 1974.

Table A-1

Number of Beds in Intramural Health Care[a]

Type of Institution	1964	1969	1974[b]
Hospitals (including university hospitals)	61,490	72,500	74,480
Psychiatric hospitals	26,840	27,720	28,100
Institutions for mental defectives	15,940	20,330	23,350
Nursing homes	12,790	24,610	36,160
Others	1,220	1,660	3,800
Total	118,280	145,600	165,890

[a] Taken from publications by the Chief Medical Office, the National Hospitals Institute, and the Central Bureau of Statistics.

[b] Estimated figures.

The total number of beds increased over the period 1964-74 by some 40%; for the period stated, this amounts to an annual increase of 3.5%.

Another important criterion of the development of volume is the number of persons working in health care, as illustrated in Table A-2.

The number of persons working in health care increased by 73% in the period 1964-74, which means an annual increase of 6%. If one considers the increase in volume with respect to the consumption of medicine and other medical services, the weighted average growth of volume of health care can be put at 5.5% per year.

Table A-2

Number of Persons Working in Various Sectors of Health Care[a]

Type of Institution	1964	1974[b]
Hospitals (including university hospitals)	72,700	112,000
Psychiatric hospitals	20,600	22,800
Nursing homes	9,800	34,100
Institutions for mental defectives	10,700	18,100
Other institutions and extramural care	24,200	53,000
Total	138,000	240,000

[a] Taken from publications by the Chief Medical Office, the National Hospitals Institute, and the Central Bureau of Statistics.

[b] Estimate.

A number of factors may be mentioned to explain the growth in volume described without its being possible to state exactly the extent to which they contribute to this growth.

First, the size and composition of the population must be mentioned. In the period 1964-74 the population grew on the average by 1.2% per year, while the share of old people in the total population rose from 9.4% to 10.4%. It is known that, in general, old people have greater medical consumption than other sections of the population, so that an increase in the percentage of old people exerts an upward pressure on medical consumption. The changes in the pattern of morbidity have also had a positive effect on the growth in volume. In this connection, particular reference must be made to the increase in accidents and in cardiovascular disease.

Of the 5.5% growth in volume, approximately 1.3% is accounted for by the changes in population size and composition. There remains a 4.2% increase in medical consumption per year and per head of the population.

APPENDIX IV

COSTS OF DUTCH HEALTH CARE (IN MILLIONS OF GUILDERS AND IN PERCENT)

	Prognoses based on extrapolation of volume development, 1968–73				Prognoses based on combination of policy options and closer analysis of inpatient sector and sector drugs			
	1975		1980		1975		1980	
	abs[a]	%	abs[a]	%	abs[a]	%	abs[a]	%
General social health care	935	5.2	1,755	4.6	905	5.1	1,850	5.3
Mental ambulatory health care	177	1.0	486	1.3	178	1.0	552	1.6
General practitioner care	793	4.4	1,164	3.1	845	4.7	1,587	4.5
Dental care	950	5.3	1,531	4.0	1,033	5.8	1,756	5.0
Drugs and medical appliances	2,173	12.1	4,394	11.6	2,000	11.2	4,160	11.9
Independent paramedical professionals	180	1.0	337	0.9	180	1.0	337	1.0
Subtotal	5,208	29.0	9,667	25.5	5,141	28.8	10,242	29.3
Specialist care	2,038	11.3	4,276	11.3	2,061	11.5	3,896	11.2
General, academic, and categorical hospitals	5,518	30.6	11,762	31.0	5,440	30.5	11,064	31.6
Psychiatric hospitals	1,065	5.9	2,171	5.7	1,049	5.9	1,923	5.5
Nursing homes	1,977	11.0	5,874	15.5	1,924	10.8	3,784	10.8
Institutions for mentally retarded	917	5.1	2,035	5.4	949	5.3	1,743	5.0
Subtotal	11,515	63.9	26,118	68.9	11,423	64.0	22,410	64.1
Control and administration	714	4.0	1,225	3.2	714	4.0	1,330	3.8
Remaining	391	2.2	592	1.6	404	2.3	661	1.9
Protection of food and drinking water	163	0.9	299	0.8	164	0.9	320	0.9
Subtotal	1,268	7.1	2,116	5.6	1,282	7.2	2,311	6.6
Total	17,991	100	37,901	100	17,846	100	34,963	100
In percent of GNP relating to market prices	9.0		11.1		8.9		10.2	

[a] Absolute amounts.

12

COST AND COST SHARING IN THE HEALTH SERVICES OF SWITZERLAND

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HEALTH SERVICES IN SWITZERLAND

Background

The structure of social security and health services in a country is related closely to its political structure. Switzerland is a federal state and consequently does not have the self-contained and centralized system of social security which often is found in other countries (*1*). Laws (commonly subject to a referendum) are made not only by the confederation but also by the cantons (federated states) which are sovereign political entities. The Swiss constitution establishes the general principle that the federal government exercises delegated powers, while the cantons retain all residual powers. In quantity and scope, however, the powers granted to the Swiss federal government are much broader than is the case in the United States (*2*).

The interrelationship of federal and cantonal social security provisions explains the variety found among programs in operation. Thus, there are both uniformly standardized and centrally administered branches of insurance with a single insurance carrier such as compulsory accident and military insurance, as well as branches with a number of carriers such as sickness and unemployment insurance. Side by side with federal regulations are those of the cantons and local authorities. It therefore is misleading to consider only the national legislation. For instance, it has refrained from making health insurance (as in other countries, the oldest branch of social security) compulsory for all or for individual classes of the population. Instead, the federal Act of 1911 empowered cantons to do this directly or by giving their communities power to do so. However, this only occurred after a proposed federal act following the constitutional amendment of 1890 was rejected by public vote—among other reasons, for fear that health insurance would be made compulsory for too many people (*3*).

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The Coverage with Health Insurance

The differing uses made by cantons and communities of the powers conferred upon them results in an extremely complex situation. Indeed, there are still four cantons without compulsory insurance of any kind, while in two other cantons, almost the total population is compulsorily insured. In the remaining 19, the proportion of the population required by law to become members of a sickness fund varies between 1 and 90 percent. In some cantons, only low-income groups (the definition varying from canton to canton) are required to subscribe to health insurance, while in others, foreign migrant workers and/or children also are so required. Even though only 23 percent of the population (equivalent to 27 percent of those covered by health insurance) were insured compulsorily, the total coverage of the Swiss population amounted to 94 percent in 1974, as shown in Table 1. This 94 percent of the population is insured through 707 separate sickness funds (1974), 194 of which are public, covering 8.5 percent of all insured persons.

However, all recognized sickness funds must be nonprofit societies providing equal treatment for all members, with their rules and a minimum benefit package approved by the Federal Social Insurance Office. The number of funds, although still very high, nevertheless, is decreasing. In the mid-1960s, there were over 1,000 such funds (*5*).

Expenditures and Financing

Since 1960, the costs for health services have been increasing at a faster rate than the national income. If the 1960 average costs are indexed as 100, then the 1970 picture is as follows (*6*): physician services 240; drugs 290; hospital services 490; and wages 200. In comparison, consumer prices have increased at a much slower pace, as is evidenced graphically in Figure 1.

While overall expenditures for health services in Switzerland in 1950 were estimated at 3 percent of the gross national product (GNP), they rose to 3.8 percent in 1965 and to 5.05 percent in 1973. Were this

TABLE 1

PERCENTAGE OF SWISS POPULATION COVERED BY HEALTH INSURANCE

Year	Persons Covered (thousands)	Resident Population (thousands)	% Coverage
1960	3,872	5,362	72
1965	4,877	5,945	82
1970	5,569	6,270	89
1974	6,029	6,415	94

SOURCE: (*4*)

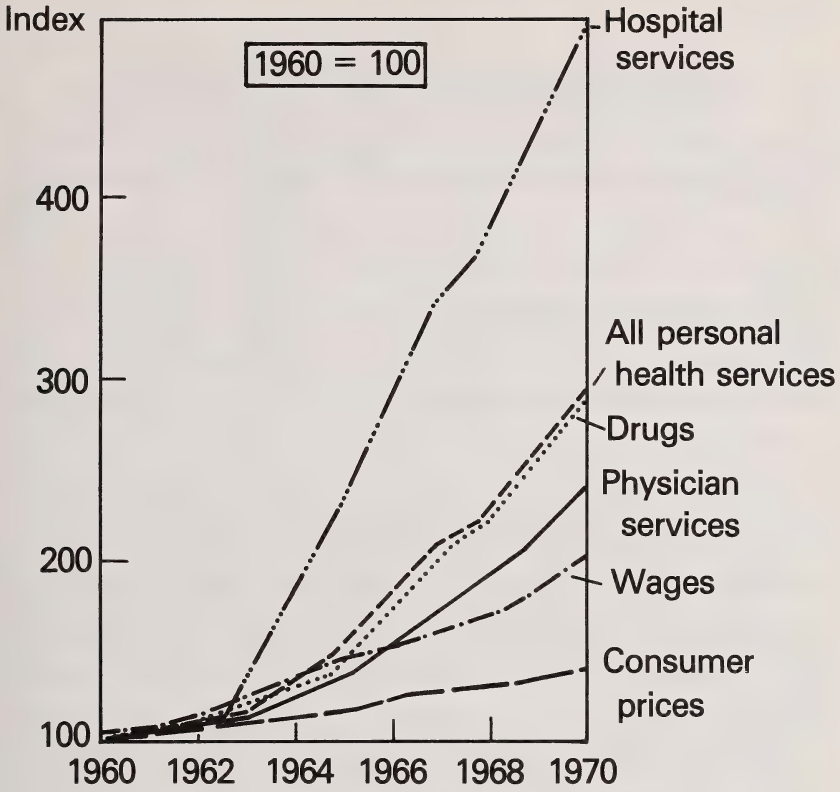

Figure 1. Consumer prices, wages, and expenditures on personal health services with components, Switzerland 1960–70.

development to continue, the fraction of the GNP spent on health would be around 8 percent in 1980, signifying a sevenfold increase in per capita expenditures since 1950 (7).

As shown in Figure 1, of all the components of the bill for personal health services, costs of hospital services have increased most dramatically. Among them, the largest item of expenditure is personnel costs, whose share in the total hospital expenditures rose from 44.3 percent in 1950 to 66.6 percent in 1971 (*8-10*).

This trend toward increasing hospital costs continues unabated. While consumer prices experienced a 41.7 percent increase from 1970 to 1975, fees for adult patients in general hospital wards increased by an average of 92.6 percent. One interesting aspect of this trend, however, is the important differences found among cantons. While the canton of Schwyz experienced only a 63 percent increase, the canton of Obwalden underwent a 185 percent increase in the same period (*11*). Looking at the

TABLE 2

AGGREGATE NATIONAL HEALTH EXPENDITURES BY TYPE OF EXPENDITURE, SWITZERLAND 1973

Type of service	Millions of Swiss francs	%
Hospital care[a]	3,536	51.9
Physicians	1,509	22.2
Drugs	1,070	15.7
Dentists	600	8.8
Home care	45	0.7
Chiropractors and physiotherapists	48	0.7
Total	6,808	100

[a] Including operating costs and investments.

SOURCE: (*13*)

absolute amount charged to patients, one finds a fourfold variation among cantons, having mainly to do with widely differing degrees of subsidization by the cantons and the committees. Unfortunately, few of these significant differences have been studied. It is hoped, however, that the recently created Swiss Hospital Institute will take advantage of the unique "laboratory" provided by the 25 distinct administrative units in the country.

Under the pressure of increased hospital costs, eight cantons so far have adopted a policy of restricting the growth of hospital personnel (through controlling new job openings), and one canton (Basel Town) is even decreasing the overall size of the manpower pool in the cantonal institutions (*12*).

Table 2 shows overall health expenditures for 1973, the latest year for which data are available (*13*). Thus, hospital care is the largest item, representing 51.9 percent of all expenditures. The total health bill amounts to 6.8 billion Swiss francs or 5.05 percent of the GNP (134.5 billion francs) for 1973. Should Switzerland spend 7.7 percent of its GNP on health—as did the United States in 1973—total expenditures would become 10.4 billion francs, or 3.6 billion more than the 6.8 billion presently spent. Per capita expenditure for personal health services in Switzerland therefore amounts to roughly 1,000 francs (equivalent to US$330 in 1973 rates)[3] compared with the United States' per capita expenditure of $420 (1974).

Table 3 demonstrates the sources of funds for these expenditures. Accordingly, about one-third of all funds represent private payments and private insurance. Another third come from the sickness funds

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[3] Exchange rate 1973: 1 US $ = 3 Sfr; 1976: 1 US $ = 2.5 Sfr.

(however, this is including federal subsidies), and the rest basically from federal, cantonal, and local authorities.

Including the subsidies to sickness funds, public expenditure amounts to 38 percent (2.6 billion francs) of the total. This represents some 58 percent of overall public expenditure on national insurance (including welfare, building, unemployment) which totaled 4.6 billion francs in 1973.

In one year, this expenditure increased by 1.1 billion or 32 percent. The proportion of social welfare expenditure as a whole rose from 12.5 percent in 1972 to 14.3 percent of all public expenditures in 1973.

It would be tempting to compare the financing within different countries and relate it first to levels and mechanisms of planning and decision making, and then to overall cost increases. For instance, state and local authorities in Switzerland finance 28.0 percent of the health bill and the federal government, 10 percent. In contrast, in the United States—also federated—state and local authorities pay only 12.1 percent and federal government, 25.5 percent of expenditures on personal health services (*14*). What is, in other words, the relationship between the level and focus of both fiscal responsibility and decision making and the overall increase in expenditures? Can one assume, for instance, that more decentralized decision making and financing by elected authorities directly accountable to their constituency leads to a slower increase in expenditure, given that, for instance, tax increases for additional financing have to be justified publicly and are subject to popular vote?

TABLE 3

AGGREGATE NATIONAL HEALTH EXPENDITURES BY SOURCE OF FUNDS, SWITZERLAND 1973

Type	Millions of Swiss francs	%
Direct payment and private insurance	2,250.6	33.1
Sickness funds[a]	2,193	32.2
Federal[b]	16	0.2
Cantonal	1,677	24.6
Communities (local)	230.5	3.4
Other[c]	441	6.4
Total	6,808	100

[a] Including federal subsidies

[b] Excluding federal subsidies

[c] Including Swiss Accident Insurance Institute (SUVA), Insurance for the Disabled (IV), Insurance for Military Personnel (MV)

SOURCE: (*13*)

COST SHARING

Besides the human resources planning efforts of the cantons already referred to, a few other recent measures for cost control should be mentioned before going into detail on the cost sharing mechanism within the Swiss health insurance system.

The Swiss Medical Association's Commission on the Control of Health Care Expenditures is an advisory body designed to create more awareness of cost issues among health care providers. It is based on the Association's belief that—in the words of its then president—"the (further) dramatic increase of health expenditures is the best way to lose health services to the State." (*15*).

Along the lines of the Commission's recommendations are activities such as hospital-based drug-use lists and controls (*16*), economies of scale through joint regional procurement of supplies (*17*), and other rationalization measures. In a report on possible savings within the field of radiology, for example, there is not only a proposal for an upper limit on the amount to be charged but also an initial tentative suggestion to institute a peer review mechanism in order to control the quality and volume of X-ray procedures (*18*). This is quite an extraordinary development, particularly so for observers of the current American debate over the Professional Standard Review Organizations (PSROs) and it has the potential of creating renewed interest in the now-forgotten Article 23 of the Swiss Health Insurance Act of 1911 (amended in 1964), which stipulates that physicians, druggists, hospitals, and laboratories must restrict their methods, therapies, and medications to those which have been scientifically validated and which serve the patients' interests (*3*).

The sickness funds, on their side, recently have handed over to the Swiss Medical Association a list of those physicians receiving more than half a million Swiss francs from sickness funds per year, again with the hope that peer review and pressure will be able to deal with the issue. An alternative route has been chosen by a Bernese sickness fund. In this instance, a letter went to specific physicians asking them to decrease their costs and comparing these with those of their colleagues (*19*). The extent to which these approaches will be successful remains to be seen.

In regard to cost sharing, let me re-emphasize that it applies only to the approximately one-third of all health care expenditures financed through the sickness funds.

As stated by Saxer—then Director of the Federal Social Insurance office—"the purpose of levying a personal contribution to costs is to discourage insured persons from making unnecessary demands on the funds." (*1*).

There are currently three forms of cost sharing in use (*20*):

Coinsurance (Selbstbehalt). The law requires funds to charge insured persons a share of the cost of each service. This share must be the same for both sexes, and so calculated that, on the average, the insured person does not bear more than one-tenth of these costs.

Deductible (Franchise). Since September 1, 1975, adults pay a fixed amount of at least 30 and at most 50 francs for any consultation (and are not to be charged twice for further consultations with the same physician for the same disease within a 90-day period). This new regulation of an increased deductible is, at present, a hotly debated issue and a direct outcome of the popular vote on health insurance taken December 8, 1974. It will be discussed below in greater detail.

Copayment (*Krankenscheingebühr*). This is only a token fee for the treatment form, intended to defray the administrative cost of issuing the certificate.

There is a special provision in the law exempting all cases requiring hospitalization, cases of tuberculosis, or maternity from cost sharing obligations.

Table 4 shows the fraction of the sickness fund activities that are financed by cost sharing. By 1973, cost sharing amounted to 181 million francs (or 5.7 percent) of the total sickness fund expenditures.

However, of a total of 2,047 million francs spent by sickness funds on personal health services, 1,427 million (or 69.7 percent) were for ambulatory services that are subject to cost sharing. The 181 million contributed through cost sharing represents, therefore, 12.7 percent of the total sickness fund expenditure on ambulatory services. This fraction has been decreasing steadily, falling from 19.0 percent in 1965 to 12.3 percent in 1974 (*4*). Altogether, 73 percent of the funds' income was derived from payments (premiums and cost sharing methods) by the insured.

TABLE 4

FINANCING OF SICKNESS FUNDS BY SOURCE OF FUNDS, SWITZERLAND 1973

Source	Millions of Swiss francs	%
Payments by the insured		
Premiums	2,120	67.0
Cost sharing	181	5.7
Public subsidies		
Federal	565	17.9
Cantonal	165	5.2
Local	22	0.7
Employers	38	1.2
Other	74	2.3
Total	3,165	100

Source: Adapted from (*13*).

TABLE 5

EFFECTS OF COST SHARING, SWITZERLAND 1974

Average Yearly Cost Sharing in Swiss Francs	Effect in % of Costs for Ambulatory Services	Effect in % of Total Costs
30	7.0	4.8
50	11.3	7.8
100	21.0	14.5
150	29.2	20.2
250	42.6	29.5

Source: Adapted from (*21*).

In view of the relatively limited portion of the income of sickness funds stemming from cost sharing, Gygi and Tschopp (*20*) expressed doubts as early as 1968 as to whether cost sharing would, in fact, have the intended impact on so-called "overutilization." These doubts seem particularly relevant in terms of the deductible as the funds levy the fee for administrative reasons "after the fact" within the framework of their billing process.

In terms of the financial consequences of different cost sharing schemes, a recent, extensive analysis, summarized in Table 5, showed that, for instance, 14.5 percent of all sickness fund costs could be contained by a cost sharing formula amounting to 100 francs per adult per year (*21*).

However, this analysis disregards any potential impact of a higher cost-sharing formula on utilization.

It is most unfortunate that, in all these years, no attempt has been made to assess the distributional impact of cost sharing, particularly regarding different socioeconomic groupings. In the present discussion surrounding the Federal Council's decision to increase the deductible, some empirical information on the decision's likely consequences would be essential.

COST SHARING AS A POLITICAL ISSUE

In order to appreciate fully the dimensions of the present discussion around the rise in the deductible, a short historical digression is needed. The initial Health Insurance Act of 1911 (KUVG) was not amended until 1964 (*22*). Soon thereafter, it became evident that more fundamental changes had to be made if the funds were to continue to finance the major portion of personal health services. In February 1969, the federal Department of the Interior set up a committee of experts to consider "a new regime of sickness insurance." The committee reported on February 11, 1972, issuing a series of recommendations, including a substantial increase in cost sharing (from 20 to 100 francs or more) in order to reduce utilization and to raise additional money.

At the same time, the social democratic party recommended a constitutional amendment for a health insurance system that basically would be financed through public funds and funds automatically deducted as a percentage of income (as is now the case with federal old age and survivors' insurance, as well as disability insurance). However, this was counterbalanced with a parliamentary proposal providing for the *partial* use of funds generated directly from income, with an upper ceiling of the percentage to be deducted (3 percent). This scheme was to finance 49 percent of all health care costs, while 51 percent was supposed to be financed through premiums, cost sharing, and public subsidies. As both benefit packages were fairly even, financing was one of the central issues in the debate.

On December 8, 1974, the population was given the opportunity—for the first time in over 60 years—to vote on health insurance. With a voter turnout of 41 percent, both proposed new acts were defeated—to the surprise and concern of many, and to the joy of a few who interpreted the outcome as representing a "no" vote for a "state medical service" (*23*).

As a direct consequence of the resulting lack of any new avenues to funding, the Federal Council decided to decrease the amount of federal subsidies by 10 percent, or 76.8 million francs, for 1975. However, in order to preclude "financial difficulties for the sickness funds and to reduce overutilization (*surconsommation medicale*)" (*24*), the Federal Council decided, after consultation with the Association of Swiss Sickness Funds (*Konkordat Schweizerischer Krankenkassen*) and the Swiss Medical Association, to increase the deductible from 20 to 30 francs, and for high-income groups, to 50 francs as of September 1, 1975. Furthermore, the deductible also will be levied when the consultation of a second physician (e.g., a specialist) is needed and when the treatment extends over the 90th day.

The Federal Social Insurance Office estimates that the new regulation will increase the cost-sharing fraction for expenditures on ambulatory care by over 50 percent (*25*). In other words, the previously mentioned fraction of 12.4 percent in 1974 (210 million) will increase to some 20 percent (340 million) of ambulatory care expenditures, assuming that utilization does not change. The additional income for the sickness funds, therefore, will be around 130 million francs—considerably more than the loss of 76 million in federal subsidies.

Following a public outcry against the new regulation, the Association of Sickness Funds, although originally not opposed to the federal plans, issued a press statement (February 2, 1976) favoring the abolishment of the deductible, and thus "jeopardizing temporarily the relationship (with the Swiss Medical Association)" (*26*). However, this abolishment would be favored only if, concomitantly, there were an increase in coinsurance (for instance, from 10 percent to 20 percent). This, however, is a legislative issue and does not lie within the purview of federal executive order, as does any change in the amount of deductible. It most likely will present an issue for the so-called "mini" revision of the Health Insurance Act scheduled to start in the fall of 1976. The recent decision of the Association of Sickness Funds to reduce payments for preventive gynecological examinations (*27*)—which represent only a very small fraction of the funds' expenditures (*28*)—has been interpreted by one observer as representing a deliberate means of pressure in this context of reduced subsidies (*29*). And indeed, the decision was followed by unanimous protests, particularly of women's groups (*30*).

In the meantime, the Swiss Medical Association also has revised its position and is asking for a review of the regulations put into effect on September 1, 1975 (*31*).

Thus, the issue of cost sharing lies at the heart of a more fundamental discussion concerning the relationship of individual and public responsibilities and the future direction of health services in Switzerland.

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DISCUSSION II

Dr. Joseph Newhouse: With a view to trying to focus the discussion specifically on the role of cost sharing. I will summarize my reading of the American literature on that subject. This literature has expanded considerably in the past few years although it still is sketchy. I am currently directing a project that in effect is a clinical trial in health insurance. The project will assess the effects of cost sharing on demand, as well as its effects on health status and quality of care. The results from that project will not be available for several years.

My remarks will be in the context of the American fee-for-service system, not about the effect of copayments within a health maintenance organization. My remarks also are intended to summarize the patient and/or physician response to cost sharing, regardless of who "initiates" demand.

First, consider demand for physical units of services, as measured by visits or hospital days and so forth, and variation in coinsurance or copayment, that is, varying the percentage of the unit price reimbursed. The evidence is best on the range between zero and 25 percent coinsurance, i.e., between free care and a quarter of the gross price. The cleanest study I am familiar with was done by Anne Scitovsky, in Palo Alto where there actually was a natural experiment.

Part of the group going to the Palo Alto Clinic was subject to a 25 percent coinsurance provision, whereas previously visits had been free. Visits dropped about 25 percent. There also is some corroborating evidence from premiums charged by insurance companies for various policies on the magnitude of the demand response in this range.

There are other pieces of scattered data, some from particular insurance plans where cost sharing has been varied, and some from survey data when one is looking across the population at consumption by individuals with difference insurance plans. Based on these fragmentary data, my best guess is that the difference in demand between no insurance and full insurance is on the order of 100 percent. I think that specific number is subject to question, but there is now considerable evidence in the American system that demand does indeed respond to coinsurance. (I am speaking of own-price elasticity.) Estimates of price elasticity vary, depending on the range of price variation considered.

On cross-price elasticity, which Mr. Gross mentioned, the best data I am familiar with come from the Kansas Blue Cross-Blue Shield experience of a number of years ago in which free outpatient care was instituted. The effect on use of hospital services was to leave them approximately unchanged or perhaps slightly increased. Any savings from preventive care were used up by additional case finding on an outpatient basis and consequent hospitalization, at least in the first 5 years.

As for the distributional effects by income group, even less is known than the effect on total demand. The Palo Alto data that Scitovsky gathered suggest that the absolute change in visits by occupational class was relatively similar. The group whose visits declined more than other groups was female dependents; however, there was a greater relative drop in visits for the lower income group. Beck's study in Canada[1] suggests that there is a greater effect of the co-payment on lower income groups. In many studies of this kind that use results from a countrywide change, it is hard to disentangle the effect of a differential price elasticity across income groups and a different initial insurance coverage. I should add that the total system response, which is what we have heard about today, typically will contain both elements of demand and supply response, and these are also difficult to untangle.

It is increasingly being recognized that the kind of cost sharing we are talking about has an important bearing, and that an average coinsurance rate or an average fraction paid out-of-pocket is not usually a very good measure of the impact of cost sharing on demand. Most notably, there is some theoretical evidence that a variation in the deductible has a strongly nonlinear effect on demand. I have some preliminary data that tend to support that proposition. A deductible is very hard to study relative to coinsurance, as those of you who have tried know. The basic notion is that variation in a very small deductible does not matter because most people expect to exceed it and consider themselves as facing the price after the deductible. Variation in a very high deductible also does not matter because most people assume they will not exceed it. Then there is some middle range in which demand is sensitive. At least that is the case if my assertion that demand responds to price is correct.

On administrative costs, a subject which has been mentioned by a number of speakers, again I think the type of cost sharing that we are talking about has an impact. For a deductible in which the patient does not file claims below the deductible but pays the provider at the time of service, I would expect administrative costs, if anything, to decrease relative to full insurance because there is less paperwork (claims are not filed under the deductible). I am talking about fee-for-service systems, not about salary or capitation systems, so this statement may be too bound to the American context.

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[1] Beck, R. G. (1973) The effects of copayment on the poor. Journal of Human Resources 9(1): 129-142.

However, in a coinsurance system I would expect the administrative costs to increase because paper processing is required from the provider to both the patient and the insurance company, or from the provider to the patient and from the patient to the insurance company (if the patient pays the provider and is reimbursed). I know of no very good data on administrative costs but I think it is important to distinguish the type of cost sharing we are talking about when discussing administrative cost.

Another issue is that of supplementation, i.e., will people purchase supplementary insurance to cover out-of-pocket payments that are part of a national health insurance scheme? Some unpublished data I have analyzed suggest that in the American context this depends on a tax treatment of supplementary insurance. It is quite clear that for nonhospital services there will not be supplementation if there is no tax subsidy for a moderate deductible up to, say $200 per person per year. If there is a tax subsidy of the current magnitude, that is basically if employer-paid premiums are not taxable income, it is hard to know whether there will be supplementation or not. The incentives to supplement for hospital services only may be stronger because the loading fees on hospital services are much lower (the costs of processing the claim are asserted to be relatively invariant to the size of the claim through this range). So the loading fees for physician services and for prescription drugs tend to be much higher than for hospital services, where a typical bill will exceed a moderate deductible.

Because the level of cost sharing differs from service to service, it is important to distinguish between services. In the case of hospital service most people who go to a hospital will exceed the deductible. Therefore, such a deductible is not likely to have much effect on the price per day of the stay or on length of stay, since both are financed by the marginal dollar.

That suggests that if price competition is to exist in the hospital sector—leaving aside the question of its desirability—other devices will have to be found. One such device would be the Health Maintenance Organization (HMO) movement in this country which, in effect, makes the price of the hospital relevant to decision making because the premium of the HMO reflects the costliness of its hospital as well as its utilization.

If one does not wish to restructure the delivery system in that fashion, another possibility is to index hospital insurance premiums on the basis of what individual hospitals elect to use. There are obvious implementation difficulties but indexing might be used in the same way as auto insurance premiums are indexed by type of auto.

I know of almost no hard data on the effect of cost sharing on health status and quality of care. That is one reason why the Department of Health, Education, and Welfare is supporting the health insurance experiment I alluded to at the beginning; we hope to learn something about these issues.

Dr. Joseph Van Langendonck: I would like to ask a few questions of the other panelist if I may. Madame Sandier, in your statistic about the X-ray costs, there was no particular evolution to be seen in the year 1959 but there was a remarkable decrease in 1962 or about that time. Can you explain that?

Mme. Simone Sandier: What I can tell you is that when you have a series that runs four points for 1 year, each point is then 3 months of the year. You cannot draw conclusions that one drop is one moment.

These are data, as I told you, which are not corrected for seasonal variations. In my computations I made this correction. Each time you have a drop, it must be about the third quarter which includes the months of August and July.

Dr. Van Langendonck: You concluded by saying that you were not pessimistic about the evolution of health care costs. Would you explain why?

Mme. Sandier: Because, as you noted yourself, the growth of health care expenditures is quite old now, about 20 years. Everybody was afraid of the percentages that were projected for the share of health care in the gross national product (GNP). In my paper I quote a computation which I will try to explain.

If health care expenditure increases by 6 percent a year and the GNP by 3 percent—and this is the rate for the United States in a recent period, it is a real situation—by the year 2000, health care expenditure will represent 14.3 percent of the GNP. This is a figure which may seem very high. But the GNP at that period would be 2.2 times higher than now. That means that the nonhealth-care portion of GNP will be twice as important as now. If you do not consider health care as part of your living standard but the rest as part of the living standard, you will see that even if health expenditure rises twice as fast as the GNP, you will have a standard of living twice what it is now.

Dr. Uwe Reinhardt: Madame Sandier, in one of your publications, you compare the consumption of laboratory services, X-rays, etc., for people with and without the so-called "ticket modérateur." The difference was astounding. Does that reflect medical conditions or is that an economic response? It was not clear from the discussion.

Mme. Sandier: You want me to explain why people without coinsurance have higher rates of those tests and X-ray procedures by visit. It is very simple. It is because the people who do not have to pay coinsurance are people suffering from important illnesses, 25 illnesses. So you can expect those people to have more tests.

Dr. Newhouse: Does the ticket modérateur apply to laboratory services?

Mme. Sandier: It does not apply to laboratory or to any other services for 25 illnesses.

Dr. Gordon Hatcher: I want to ask a question about the studies by the Rand Corporation on the effect of copayment or deterrent charges or cost sharing (which is a much more gentle, polite term for those who favor it) on utilization.

I wonder if you can draw conclusions about what will happen in a total system, such as all of California or all of the United States, when you look at the utilization behavior of only a group of families—a few thousand or a few hundred. Do you have to look at the total way in which all of the doctors in all the hospitals earn their income rather than just looking at little groups of families? In other words, will the doctor not be able to substitute for the patient who does not come to him to get that $700 complete workup, a patient from some other place in the system? Similarly, will the hospital keep its beds full in some other way?

Dr. Newhouse: The answer to your question depends on the institutional arrangements, given the context of the American fee-for-service system. It is important to recall the remarks I made this morning. Implicit in your question may be the assumption that demand is merely a function of supply. I feel there is substantial evidence that such an assumption is incorrect: for example, the redistribution of hospital days toward the aged after Medicare as Mrs. Rice mentioned earlier.

Supply considerations will be a factor if the demand increase is large. Because hospital services are currently well insured relative to dental services or prescription drugs, the change in demand for hospital services, were all services fully covered, will probably not strain existing supply. But for other services the demand increase would be substantial.

Such a demand increase could lead to nonprice rationing. As Dr. Altman said this morning, something will happen that will serve to ration the demand. It will not just vanish.

What we seemed to observe in Montreal was that waiting times to appointments increased when services were free, but we know remarkably little else about specific kinds of nonprice rationing mechanisms. I suspect they vary from country to country. For example, I am told that in Denmark there is a legal requirement that a patient be seen on the day he wants service by the physician. In that context I would not expect a reduction of the price (although it is politically naive to talk about price reduction in the Danish context) to affect delay to an appointment. I would tend to look more at factors such as hours physicians work or time of visit or perhaps time waited in the office as variables that might be affected if there is substantial excess demand.

In sum, I would expect some kind of nonprice rationing of nonhospital services if we went to a very comprehensive health insurance plan. If we go to a plan where there is a sufficiently large deductible, say $200 per person per year, I would not expect a lot of change in demand. A coinsurance rate of 25 percent with no deductible would lead in the short run to a substantial demand increase. For this reason, it is important to emphasize the difference between a deductible and coinsurance in terms of interpreting the demand response.

DR. HATCHER: Let us say that each family or person had to make a $200 deductible payment per year. The physician expects to earn whatever he expects to earn in the year and he wants to do it with as few hours of work as possible. However, under certain pressures, he will accept the responsibility with his colleagues to see that certain services are available for around-the-clock delivery.

If there is a zero price system, no deductible, he will do as he did in Montreal. He will say, "Well, Mrs. Jones has seen me seven times for virtually nothing in the last year. I will let her wait a month for an appointment. But here is Charlie: I have seen him only once and he really is sick." You are saying that instead he should say, "Charlie has to pay $200 so he will not come to see me. But Mrs. Jones does not care anyway so she will come to see me and I will see her one more time."

In other words, what I am suggesting is that your deductible is targeted at the wrong people if you are trying to control utilization or get the most efficient use of services for medical reasons. The Health Insurance Study should generate precisely such evidence.

DR. NEWHOUSE: That depends on some evidence that we do not presently have concerning the effect of cost sharing on health status. I would not necessarily disagree that there is an effect; I am relatively agnostic. I think the evidence that there is an impact on demand is much clearer than either what the exact magnitude of the effect is, particularly in the case of the deductible, or what the consequences are for what was called this morning the objectives of the system.

DR. HATCHER: I am suggesting that, as Madame Sandier showed us and what Saskatchewan in many experiences with copayments has shown with its poverty program and with the drug deductibles and so on, as reported by Beck, the providers will learn how to manage the system in order to get as much out of it as they can. You will get a leveling-off of costs until the providers learn how to work the system, then costs will jump right up again.

Dr. Newhouse: It depends importantly on the levels. If the deductible is small, I would agree, and copayment of usual levels has relatively little effect. But how much autonomy physicians have depends importantly on what the possibilities are for price competition. There is not much evidence on it.

Dr. Reinhardt: If I can just add to that, your scenario depends crucially on the assumption that one started out from a position where there is no coinsurance and capacity has adjusted to the prevailing demand. If one then introduced coinsurance in the face of the expanded capacity already in place, then that capacity would try to employ itself. Then one would have the scenario we actually observed in Saskatchewan.

We are talking about a situation where there is initially a high coinsurance rate, for instance, the rate we now have in the United States. If one then introduces a national health insurance plan with zero coinsurance, one has to ask oneself: What capacity would I have to have to accommodate this health insurance scheme without creating long lines? Next, one would compare that with a system, again hypothetical, in which there would be, say, a 25 percent coinsurance rate. The question then would be: What capacity would have to be put into place under this alternative to keep lines down to a reasonable level? Economists would predict that the capacity you needed to get lines to a certain tolerable level under 25 percent coinsurance is less than that needed for a health insurance scheme without coinsurance. That is the point economists make.

What we have seen in Madame Sandier's chart was really a response to introducing coinsurance, or raising it, in a regime where the capacity was already in place. By then it was too late to expect reductions in utilization. I agree with you. Providers can easily manipulate the system to keep themselves busy. The question is: How much capacity does one have to put into place? That is the question American health economists ask. We do not yet have the capacity, but we are told by Dr. Newhouse and others that if we did lower coinsurance to zero, we would need many more doctors than we now have.

Dr. Paul Gertman: I think part of the problem the medical community often has with the plans of health economists is the blanket manner in which they talk about coinsurance and deductible affecting units of service, visits, dollars, and so on. The medical community gets concerned about which specific services are affected. All units are not alike. If deductibles and coinsurance discourage children from getting polio vaccinations, that is not a good result. If it discourages people from going to a dermatologist and spending $30 for every blemish they note, that would probably be a good result. I am simply saying we do not know how to put the two together so that our deductible and copayment policies produce the type of behavior which we believe is appropriate health care use, particularly for preventive services, without opening the gates for inappropriate use.

I would raise the question about whether we might want to pay for certain health services outside the standard insurance reimbursement system; that is, go back to some of the categorical programs which, to a large degree, we have abandoned in the last 15 years: Start to say which services we really want everyone to have, treat these as special programs separate from the insurance system, and then institute copayment and deductibles without having to worry that we are producing inappropriate health behavior due to these final mechanisms.

Dr. Newhouse: You are quite right. I agree with you that certain services can be exempted from any cost sharing. My question for you would be: What would you want to exempt?

Dr. Stuart Altman: Let me throw a different light on the coinsurance. I think economists get themselves hoisted on their own petard in some cases when they fight this utilization battle. You know, if it affects utilization, it is bad, and if it does not, then it is irrelevant. I would suggest from my point of view an alternative, positive approach toward coinsurance even if it had no effect on utilization. You might get the consumer at least to be neutral rather than being highly negative against government on the regulation and perhaps in certain circumstances forcing him to do something positive about the system.

Here is the economist trying to play political scientist. But what I am talking about is the extent to which you get a better balance in the system for controls versus out-and-out spending. I do not know how other people react to it, particularly those of you who have systems with no coinsurance. And yet you ask government to limit supply, you ask government to limit services, you ask government to keep providers from making millions of dollars.

Dr. Shlomo Barnoon: I would like to put the coinsurance or deductible, that is, the topic of cost sharing, in the light of the objective of health insurance in general. If we do not consider for a minute the objective of the insurance company to make money and we look at it from a social point of view, health insurance has two major objectives. The first is to insure against total cost annihilation in time of serious disease and prevent ruining a family. The other objective is to share costs over a large population, to take the cost of this 4 percent of heavy utilizers and to divide it over the total population so that the burden is shared. As far as I am concerned these are the two major reasons for health insurance. Now, when you add the copayment or the deductible, you are penalizing the people who need insurance most. You defeat the purpose of health insurance.

If you selectively remove a certain part of the group as you did with the 25 diseases, that is good. If you also remove low income groups and excuse them from sharing in cost, that is also good. But by then, cost sharing does not mean much because there are no real utilizers, that is, you removed most groups.

DR. L.M.J. GROOT: I am not sure that these systems of coinsurance and deductibles are very important. For instance, in the social security system in our country, we do not have much copayment by patients. America has, but as you see, it does not make too much difference. If we are compared with the United States, we have very little coinsurance and no deductibles.

In our country we have the impression that the government, the insurance, and the people are at stake. The government has to regulate this thing because the sick funds are unable to restrain costs. If cost containment is not a national issue, then it will not succeed.

Given the structure of costs which are predominantly constant, I cannot see any benefit in coinsurance deductibles as, in the short run, they can influence only variable costs, which constitute perhaps 10 to 15 percent of your costs. This is the space in which you can influence costs in the short run. The other costs are costs of infrastructure such as hospitals, facilities, doctors, instruments, etc., and cannot be influenced in the short run.

MME. SANDIER: I am not sure that when we speak of increasing cost sharing, we are not creating an unrealistic problem. The different examples we may have show rather that there is a tendency to more coverage for health care. This is the case even in the United States. You are speaking of health insurance. You are beginning to speak of reimbursing for drugs. This is also the case in France where we do observe that the number of illnesses covered without coinsurance is increasing and that the share of expenditures paid by third parties is increasing also. That is what we actually observe.

I would like to tell you about the recent Committee on the Seventh Plan in France. In France we plan for 5 years. The committee met from last November to March. One of its guidelines was a recommendation to contain health costs. The government had given this guideline to the committee. In fact, at the end of 6 months one recommendation included the suppression of coinsurance, not in every case, but for hospitalization.

Because even for persons hospitalized for 10 days when the price of a day in hospital runs $200, you cannot think of having people pay 20 percent of that.

That was the proposition put forth by social security people, researchers in medical economics, union leaders, and so on. There was agreement on that point. To try to save some money anyway, they proposed a replacement for 20 percent copayment on hospitalization by a daily rate of 10 francs ($2) to cover the food in hospitals. But the report of the committee stated: If, for administrative purposes, you cannot get this rate of 10 francs, let us abolish the ticket modérateur and never mind. A proposal was made to eliminate the coinsurance amount for all poor people and to improve the reimbursement for care such as dental care, which is not considered very important for the patient.

To go back to what I said previously: If this tendency occurs, it is because the cost of illness is distributed very unevenly. If we do not want to consider that in our discussion, we may speak of many purposes but it is not what will happen.

Dr. Stuart Schweitzer: If the objective of the health care system, as I am sure we would agree, is to deliver health care with a side condition that it should be done with greatest efficiency at minimum cost, is there some agreement by those of us who represent countries with a significant cost sharing that our systems can make adequate differentiation between those who are in need of care and those who are not in need of care so that the poor are not taxed at a higher rate than the rich?

These are considerations that are basic to those countries where there is no cost sharing. And if one begins to exempt certain groups, as Madame Sandier pointed out, in order to achieve equity, then is it really worth it anyway? Is there some agreement from you people who have cost sharing now?

Dr. Van Langendonck: May I answer this? In Belgium some years ago, Professor Deleeck of Antwerp studied income transfers and income redistribution under social security. He showed that our health insurance system was a way of transferring income from the poor to the rich. That was not because of copayment only, but copayment played an important role in it.

Dr. Newhouse: I think that will depend importantly on what financing mechanism is used.

Dr. Finn Kamper-Jørgensen: One of the opening remarks of Dr. Newhouse played a great role in what we are discussing here. He said something about the payment system and ideology and technical rationality. I am going to comment on that by means of an example.

In 1973, a tax-financed, compulsory, national health insurance program covering primary health care activities in my country, mainly those of general practitioners (GPs), was introduced. Before 1973, if a patient called a doctor at night, he had to pay $1. After 1973 this system was abandoned. Then there was no charge to call a GP or a younger doctor for home visits at night. By night I mean from 4:00 p.m. until 8:00 a.m.

A study was conducted in a city of 45,000 people, 3 months prior to the reform and 1 year later. The conclusion of the study was the following: When controlling for variations in disease between the two periods, there was a 16 percent increase in home visits. The distributive aspect was the following: The increase was more than average among lower-class people and among heavy users.

At the same time there was a comparison with Great Britain, where a Dane and a Briton tried to find out how many night calls one had in Great Britain. It was more or less shown, and the British people here can comment on it, that in Denmark, doctors have three to four times as many night calls. In Great Britain, they do pay, as far as I know, quite a lot for a home visit at night—the estimate was three to five times that of Denmark.

At the same time a study of night-call services in Copenhagen was conducted. It was estimated that one-third of the calls for doctors were unnecessary from a medical standpoint. People needed services or help or just a person to talk with. But two-thirds were medically justified. Two years ago in connection with a political discussion of reductions in growth of public sectors in Denmark, a political party in the middle proposed that all patients pay $2, that is about 15 Danish kroner, for every visit to the GP. This is a copayment system representing about one-third of the payment to the GP's fee for consultation.

I am one of the editors of a Danish medical journal. I sometimes like to check public opinion in that journal as reflected in the editorials. These editorials reflected political opinion from the extreme right to the extreme left, but all opposed a copayment system. They all argued that socially this is bad. The socially weak groups will be worse off. They said the Danish population has learned to live for a long time with a zero price system. It has become a habit. They said that the administrative costs will too high.

Everybody knows that theoretically there may be overutilization in the zero price system. But the general political thinking is that this overutilization has to be accepted because the fundamental philosophy of at least the Danish system is to have free access to the first point of entrance to the health care system. In my country this is the general practitioner. It should not cost anything for most people. Then the derived demand will be controlled by the GP. Therefore, I think that we ought to distinguish between technical rationality and basic political values in a country. The directions which guided these decisions were not based completely on rationality but on basic political values, free entrance to the first point in the system.

Dr. Irving Leveson: The last time I mentioned house calls somebody asked me to explain the term for the younger members of the audience!

I have often used the GNP comparisons that Madame Sandier made to make exactly the opposite point. Suppose we expect the GNP to double between now and the end of the century, while medical care costs are increasing twice as fast. If we were to have a successful cost containment policy beyond our wildest dreams that let medical care costs rise only as fast as GNP—we would not be decimating the health system but rather allowing it to grow at a substantial rate of 2.5 to 3 percent per year, and by the end of the century we would find our medical care costs were half what they otherwise would be.

The point is that while we are affluent enought to tolerate a very considerable amount of inefficiency, we do not *have* to tolerate it. We have seen an incredible accumulation of evidence over the last few years—evidence on unnecessary surgery, evidence that a second medical opinion cuts one-sixth of surgery, studies of excessive length of stay in hospitals, on patients in nursing homes who could be receiving alternative care, and so on. We know that we have a sizable problem of inefficiency.

The question then is one of deciding which are the effective tools for dealing with the problem. We can, as technocrats, come up with estimates of what the effects of a cost sharing system would be. But what we cannot do is put our views in place of the public preferences which show limited willingness to rely on cost sharing.

I would like to emphasize that the need is still extremely great for some of the cost containment measures which we will be talking about, and while there are limits to how far cost sharing should be allowed to go, we should separate the question of whether we ourselves like or dislike cost sharing from the question of whether a strong cost sharing policy is necessary as one of these measures.

Dr. Siegfried Eichhorn: May I make some remarks about the German situation? In general, as you know, we have a social health insurance system; 90 percent of our population are compulsorily insured. We do not have any cost sharing at all. One exception is in the field of drug consumption. Every patient pays $1 as a maximum.

But from time to time people ask for the introduction of some kind of cost sharing and nowadays, in connection with cost explosion, one hopes that such cost sharing will reduce or limit cost explosion. In connection with that, the only sense of cost sharing would be to avoid unnecessary demands. Analyzing the decision-making process in the health field, you will see that the patient is not able to decide what is necessary and what is not necessary. The only man who can decide about necessity or demand is the doctor as the supplier of medical services.

There is now a new idea to introduce quite another kind of cost sharing—cost sharing for those who make the decision on the supply side. The idea is that fees or charges for medical services are diminishing if kind and amount of services delivered in the health field exceed the necessary demand. Obviously, all consequences of such cost sharing have to be interpreted carefully but I think we will follow the design in any event.

PART III

ALTERNATIVE APPROACHES TO THE REIMBURSEMENT OF PROVIDERS

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THE CONTAINMENT OF HEALTH CARE COSTS IN THE UNITED KINGDOM

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ALTERNATIVE APPROACHES TO REIMBURSEMENT

This paper is concerned with systems of remuneration of medical manpower. While the term manpower is very general, the examination of remuneration will be very specific. It will be concerned largely with the payment of physicians and dentists. Little attention will be paid to the remuneration of nurses, paramedical staff, or ancillary staff despite the fact that these groups make up the majority of the labor force. Our concern will be with the expensive rather than with the numerous. First, the general theory of reimbursement systems will be analyzed briefly. This is followed by an examination of the United Kingdom remuneration practices. The final section will address itself to the question of whether the United Kingdom medical remuneration system is effective in containing costs.

THE GENERAL THEORY OF REMUNERATION

In theory, medical practitioners should not be influenced by financial incentives. The practice of their profession is, in theory, above such considerations and similar to that of the priest. In fact, physicians do not practice such high ethical principles, and consequently there is a need to analyze carefully the effects of alternative remuneration systems. The effects of any pricing system can be bizarre and contrary to the objectives of a particular health care system. Unfortunately, the systems of payment are relatively under-researched, and only general comments and poor evidence can be presented. Below, three types of remuneration system are examined: fee per item of service, capitation fees, and salaries. The analysis is concerned with individual reactions to incentives. Such an analysis may be of limited applicability to the behavior of physicians who work in groups. Group practice is relatively rare in some countries

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(e.g., West Germany), while in others it is commonplace. In all areas it is increasing. This trend is interesting because it has not been demonstrated that group practice has desirable attributes in terms of output and the efficient combination of inputs. The rigorous testing of cost and revenue-sharing practices has been begun (*1, 2*) in the United States. However, the body of evidence available about the outcomes of such practices remains very small. It is apparent from both theory and evidence that group practice may not always have desirable outcomes. In the following discussion, it is important to bear in mind that decision making by groups may have different outcomes from that of individuals. Obviously, a lot more research is required to analyze performance in different organizational forms.

In West Germany many physicians are paid on a fee-per-item-of-service basis. The fee for each medical act is listed in a booklet and, through the years, as technology has changed, the list has grown longer. The physicians' income is related to the items of service provided and payment is made to individual physicians by their state medical association, which is responsible for their supervision and registration. The insurance funds, which pay the medical associations, employ physicians in a policing role in an attempt to monitor the "necessity" of medical acts. [See Maynard (*3*) for further details.]

Why is such control necessary? For those physicians influenced by financial incentives, there is a tendency to act as rapidly as possible. The physician is not paid to wait; he is paid for each medical act listed in the fee code. Consequently, the first problem is that some medical acts may be medically unnecessary. The work of Lichtner and Pflanz (*4*), Bunker (*5*), and others leads us to question the influence of the remuneration system of surgeons in the Federal Republic. To what extent, if any, is it responsible for the fact that West German and American per capita appendectomy rates differ by a factor of 3? Why does the appendectomy surgery rate fall on Saturdays and Sundays? This type of act is usually the result of emergencies, and it is interesting to speculate about the causes of the declining rate of emergencies on weekends (physicians' quiet lives?). The German love of the appendectomy has resulted in 46 percent of females and 33 percent of males being without this organ. Furthermore, Pflanz estimates that as many as 75 percent of the operations in one area of Germany (Hanover) were unnecessary from a medical point of view and that the death rate from this type of surgery was greater than in the United Kingdom and the United States. As Bunker (*5*) has asked before, is the payment system at all responsible for the higher incidence of surgery in the United States compared with the United Kingdom? These questions are important but unanswered.

Not only may payment of a fee-per-item-of-service basis lead to quantity without quality; it also may lead to waste in the use of equipment. The German physician has an incentive (payment) to carry out X-rays, diagnostic tests, and other acts, and to avoid referrals to hospital. This leads to his having equipment that is underutilized, to risks of lower work quality due to lack of specialization, and to a peculiar community care–hospital structure. Because the physician has the incentive to treat and test, outpatient facilities in the Federal Republic are relatively underdeveloped: The patient is either in the care of the community physician or hospitalized. [See Maynard (*3*) for further analysis of this.]

These outcomes may be promoted by inflation. If a country tries to apply price and income controls to physicians in terms of inflation, the physician can avoid these controls by increasing his work rate. A careful analysis of recent experiences in Germany and Canada might generate interesting evidence in this area.

Abel-Smith (*6*) has argued that the fee-per-item-of-service system gives rise to relatively little pressure for the system to approach a geographically even distribution of physicians. A physician can enter an overdoctored area and practice, and there is no relatively larger incentive to practice elsewhere. Alternatively, we could argue that undoctored areas, perhaps characterized by higher morbidity and mortality rates, might permit a greater scope for income maximization. However, this latter influence, if present, has been weak, and spatial equity has been pursued by augmenting the fee-per-item-of-service payment system with lump sum, explicit subsidies which accrue to those physicians practicing in unpopular areas.

It is apparent that the fee-per-item-of-service payment system may have unacceptable outcomes. This is recognized by the administrators of most systems using this method of payment. The reaction of the administrators and politicians seeking to curb expenditure inflation has been to set up mechanisms to curb the excesses of these systems. There is no such thing as a free lunch, and these curbs have resource costs. Furthermore, their efficiency does not appear to have been rigorously analyzed.

In the United Kingdom, a major element in the physician remuneration system is the capitation fee—a payment for each patient on a physician's list. The outcomes of a system of capitation fees may have unacceptable qualities also. To maximize income under a system of capitation fees, the physician must maximize his list size while trying to avoid patient pressure on his limited time. Thus in the United Kingdom a likely effect of the general practice capitation system is that referrals are quite common and some hospital physicians claim that a proportion of referrals are unnecessary. Also, visit times may be low with capitation fees, as physicians may try to economize time in order to serve a long list. To avoid conspicuous maximization of list size, most countries using this payment system place a limit on the number of patients a physician can register.

Administrative solutions to the referral problem are possible also. In the Netherlands, general practitioners paid on a capitation basis under the social insurance system refer patients to hospital physicians paid in a similar manner. Over-referral can lead to disciplinary action by the local physician organization. This outcome is the result of monitoring of physicians by physicians, and their incentive to do so is the realization that over-referral to the hospital decreases the level of health fund resources available for increases in capitation fees. Over-referral by general practitioners raises incomes of hospital physicians but reduces the scope for increases in their own fees. In the United Kingdom referral is costless for the general practitioner, as the hospital physician is salaried. Consequently, other things being equal, we might expect to find differing referral rates. Unfortunately, this hypothesis has not been investigated. United Kingdom monitoring of referral rates is noticeable by its absence.

As Glaser (7:262) has noted, the propensity of physicians to write prescriptions under capitation and fee-per-time-of-service systems differs. He notes that fewer pharmaceutical prescriptions per insured person are made out by physicians paid by a capitation system than for those paid by a fee-per-item-of-service system. This outcome was found in all the Italian provinces studied.

Both capitation and fee-per-item-of-service systems may lead to reduced incomes in later life. If the capacity to handle a large list or cope with the provision of a large number of items of service is inversely related to age, members of the profession may receive incomes that peak in the thirties and then decline, rather like the earnings profile of manual workers. This outcome may generate an incentive to leave public health systems using such methods of payment—provided private alternatives are available. If private practice is not available, the outcome is pressure for the capitation payment system to be augmented with seniority payments of some kind.

The effect of capitation systems on the geographical distribution of physicians is uncertain. Urban areas offer lists in concentrated spatial areas and hence travel time is reduced, compared with rural areas. The problems of coping with a widely distributed list in a rural area may tend to limit list size and the physician's income. By and large, the experience of the United Kingdom has been that the capitation system had to be augmented to attract physicians to urban areas. Thus smaller lists in the country are preferred to long lists in areas of urban blight. The nonpecuniary attractions of areas such as South West England may obviously mitigate the outcomes predicted from simplistic models based purely on monetary incentives. Such factors, together with the watering down of the capitation system so that only about half the physician's income is derived from capitation payments, can be used to achieve objectives other than those derived naturally from a pure capitation system.

Clearly, capitation systems may have unacceptable outcomes. Once again, there is a relative lack of clearly tested hypotheses to give empirical substance to the predicted outcomes. But, as with fee-per-item-of-service payment systems, initial purity in the system (i.e., pure capitation payments) has led to monitoring and/or change toward remuneration derived from a variety of bases.

A final basis for remuneration is a salary. Under a salary system excellence can be rewarded by promotion. Excellence can be related to clinical skills, preventive skills, administrative skills, or all three attributes. The obvious potential problem is that as a result of such a system, the physician may act to meet the criteria of excellence and hence maximize his chance of promotion, rather than to meet the "needs" of the patient. Furthermore, those with limited prospects of promotion may retire prematurely (i.e., on the job) and pay less rigorous attention to their duties: A similar outcome may arise where the possibility of income supplementation from private practice is available.

An unusual outcome of remuneration by salary may be that the profession is much more in favor of training more physicians. Under capitation and piece-rate payment systems, more "artisans" may pose a threat to the incomes of incumbents. With the salary system, more "artisans" offer the possibility of reduced individual workloads (or reduced growth rates in workloads) and normally pose no threat to existing or future salary rates. Here private practice can be an advantage: The physician paid a salary may reduce his pressure for more physicians, not because they are a threat to his public salary, but because they are a potential threat to his private practice income. The removal of private practice may remove the inclination not to press more vigorously for an increased supply of physicians.

As Friedman has remarked, there is no such thing as a free lunch, and this point is as relevant for the remuneration of physicians as it is for the pricing of any other good or service. Financial incentives have predictable effects and, although the evidence necessary to verify hypotheses is not substantial, the main problems associated with particular payment systems seem to be clear and avoidable at an unknown cost in terms of technical efficiency. The magnitude of our ignorance about the precise effects of differing types of payment systems on physicians' behavior individually and in groups is clearly substantial and worthy of a more significant research effort. Obviously, the effect can be measured on a variety of measuring rods; treatment patterns, hours of work, and treatment costs are but three such rods.

PAYMENT PRACTICES IN THE UNITED KINGDOM

Many of the problems outlined in the preceding paragraphs have affected the remuneration systems in the United Kingdom. In this section I will discuss the payment of dentists, general practice physicians, and hospital physicians.

TABLE 1

DOCTORS' AND DENTISTS' REMUNERATION (FROM APRIL 1, 1976 IN £/YEAR)

General Medical Practitioners

Basic practice allowance	2,575.00
Capitation fees	
Patients under 65	2.35
Patients 65 to 74	3.25
Patients aged 75 and over	4.00
Supplementary capitation fee (paid for each person in excess of 1,000 on list)	0-47
Seniority allowance	
First stage (15 years registration)	580
Second stage (25 years registration)	985
Third stage (35 years registration)	1,570
Designated area allowance	
Type 1	750
Type 2	1,150
Group practice allowance	420
Fees per item of service	
Vaccination and immunization	0.50-1.15
Cervical cytology test	2-30
Full maternity services	35-75
Night visit fee (11 p.m. to 7 a.m.)	4-60
Contraception	3-50 (10 for intrauterine device)
Vocational training allowance	580
Temporary resident fee	2-3

In addition, there are initial practice allowances, rural practice allowances, allowances for dispensing and supplying drugs, and a set of fees for emergency treatments. The target income in 1975-76 was £8,485.

Hospital Medical and Dental Staff

Basic salary		
House officers		3,171-3,606
Senior house officers		3,975-4,464
Registrar		4,464-5,421
Senior registrar		5,130-6,591
Consultant		7,848-10,689
General dental surgeon		4,557-7,182
Distinction awards		
A plus awards	(130 awards)	7,848-10,689
A awards	(487 awards)	6,342-8,421
B awards	(1,390 awards)	3,852-5,073
C awards	(3,135 awards)	1,818-2,337
	(5,142 awards in all)	

General Dental Practitioners

The 1975-76 target average net income was £7,643. Fees per item of service are determined by the Dental Rates Study Group and the fees are set to enable the average dentist to acquire the average income. (An attempt is being made to introduce a "salary plus bonus" payments system whereby dentists use publicly provided premises and thereby are induced to go to underprovided areas.)

SOURCES: (*8*, *9*)

General dental practitioners are paid on a fee-per-item-of-service basis. The system of payment of practitioners is outlined in Table 1. Each year the remuneration levels are revised and a target income for the average dental practitioner is fixed; in 1975–76 this target was £7,643. The fee levels per item of service are determined by the Dental Rates Study Group, and the fees are set so as to enable the average dentist to acquire an average income. Actual incomes depend on the work pattern of the individual dentist.

Two major problems are associated with this payment system: treatment outcomes and geographical provision equity. The fee system is related to dental repairs and extractions rather than to the preservation of teeth. It is very difficult to identify activities which aid teeth preservation and set a fee against such activities, e.g., more effective brushing and fluoride additives. Consequently, monitoring is carried out via the Dental Estimates Board, but its efficiency is difficult to judge.

The second problem of the payment system is that it offers no incentive to change the present unequal distribution of dentists around the country. In 1974 the average number of persons per dentist in England was 4,192. The variations around this mean were considerable: The Trent Regional Health Authority had 5,916 persons (41 percent more than the national average) per dentist, while the North West Thames Health Authority had 2,567 persons per dentist (38 percent fewer than the national average). The southern and western areas [i.e., the Thames (Metropolitan), Oxford, and South Western] are well endowed with dentists, while the east and north are badly endowed. This inequality existed prior to the creation of the National Health Service, and the nationalization of the finance and provision of health care in 1948 has had relatively little effect on distributional equity.

The government's response to the increasing public awareness of geographical inequity has been twofold. First, the supply of dental practitioners is being increased: Currently the total number of nearly 19,000 is being increased at an average annual rate of over 300 (a target stock of 20,000 was fixed in 1946 and still has not been met). Second, the government has introduced, with the profession's agreement, a "salary plus bonus" payment plan. Under this plan the dentist uses publicly provided and equipped premises, usually in health centers. The emphasis of this plan at present is to induce dentists to go to underprovided areas. It is too early as yet to determine whether the plan will have a significant effect on distribution.

The general practice physician is paid on a variety of bases. Originally (after the 1911 insurance legislation), most areas used capitation systems, but the "purity" of these systems has been diluted by policy constraints. In Table 1 the payment plan is set out in detail. About 50 percent of the average general practitioner's income is derived from capitation fees. An important element of payment is the seniority allowance. This element, paid at increasing rates after the completion of longer periods of registration, was introduced to cushion those suffering from income declines in later years due to reduced capacity to handle long lists. The designated area allowances are related to local doctor-patient rations which, if large, result in payments for specific time periods. Fees per item of service were introduced to give an incentive to practitioners to provide particular services and the vocational training allowance is used to encourage on-the-job training. Pay rates are revised annually in line with public pay policy and after comparison with wage increases of other professional groups.

The main problem remaining is that of geographical equity. Table 2 shows the distribution of general practitioners in England and Wales in 1972. The worst endowed area (Hartlepool) had an endowment nearly 23 percent better than the national average, while Merionethshire had an endowment nearly 29 percent better than the average. The medical profession refused to accept positive direction by the state, but agreed to what is called "negative direction." Those areas which are overdoctored can be closed to new entrants: The profession refused to be told where to go, but they agreed to be told where they could not go. To encourage movement to underdoctored areas, the system of designated area allowances was introduced. This system "designated" areas as being particularly underprovided and paid practitioners working in those areas an additional income. Designation is revised periodically. Thus there is a probability that the allowance will cease if the inflow of physicians to an area is high: This tends to make the incumbents prone to "discourage" new entry where possible! The trend in geographical distribution has been toward greater equity. The causes of this appear to be payment, negative direction, and the increase in the output of the medical schools. Perhaps the latter is the most significant factor.

The general practitioner has little incentive to carry out extensive diagnostic tests (as these consume time and fail to increase payment, unlike fee-per-item-of-service payment systems) and the propensity to refer patients to hospital physicians may not always be the result of careful medical analysis. The hospital physician is salaried and has no financial incentive to discourage referrals. The detail of the hospital physician's remuneration is set out in Table 1. The basic salary scale for nonconsultant staff begins at £3,171 and goes up to £6,591. Actual remuneration varies from one job to another and can be considerably in excess of these basic salary rates. These variable pay rates mean that in some cases it no longer pays senior registrars to become consultants: In fact, they may suffer a pay decrease by accepting promotion. Many of these practitioners are foreign-born; e.g., in 1974, 57 percent of the 3,456 registrars in England were born outside the United Kingdom and Eire. The proportion of foreign-born physicians in the hospital system varies between specialties: It is particularly large in the mental-illness sector.

TABLE 2

DISTRIBUTION OF GENERAL PRACTITIONERS: AVERAGE LIST SIZE IN 1973

Region		List Size	Percentage Variation From National Average
North			
Worst	Hartlepool	2,951	+23.0
Best	Westmoorland	1,839	-23.3
Yorkshire and Humberside			
Worst	Rotherham	2,832	+18.0
Best	Yorkshire and East Riding	2,169	- 9.5
East Midlands			
Worst	Northampton	2,656	+10.7
Best	Lincolnshire (Kesteven)	2,210	- 7.8
East Anglia			
Worst	Huntingdonshire and Peterborough	2,628	+ 9.5
Best	Suffolk East	2,158	-10.0
South East			
Worst	Bedfordshire and Luton	2,269	+11.3
Best	Bournemouth	2,048	-14.5
South West			
Worst	Wiltshire	2,361	- 1.5
Best	Isles of Scilly	1,100	-54.1
West Midlands			
Worst	Wolverhampton	2,738	+14.1
Best	Herefordshire	1,926	-19.6
North West			
Worst	St. Helens	2,858	+19.1
Best	Birkenhead	2,160	- 9.9
Wales			
Worst	Glamorgan	2,416	+ 9.4
Best	Merionethshire	1,574	-28.6
England and Wales			
Worst	Hartlepool	2,951	+23.0
Best	Isles of Scilly[a]	1,100	-54.1
Average		2,398	

[a] This is exceptional; the second best is Merionethsire (1,574, -28.6%)

SOURCE: Derived from (*10*)

The proportion of foreign-born consultants (14 percent) is less than that for junior grades and again is distributed unevenly between specialties and geographic areas.

There are two elements in the consultant's remuneration system: basic salary and distinction awards. The distinction awards system augments the salary of about one in three consultants. The allocation of the awards is controlled by a committee of physicians. The effect of the system has been that physicians of distinction have received salaries which are sometimes twice the basic remuneration level. The criterion used to allocate the awards, distinction, led to payments to physicians in centers of excellence, mostly the teaching hospitals. From the geographical viewpoint, this led to a concentration of award holders in the south [the metropolitan and Oxford areas (*11*)]. Subsequently, a geographic element has been introduced into the award system; that is, the criterion of excellence is "tinged" with geographic equity. This development has led to more awards going to the northern areas but the distribution remains very uneven.

Hospital consultants can sign full-time (11 sessions of 3.5 hours each: 38.5 hours) or part-time (up to 9 sessions of 3.5 hours each) contracts with the National Health Service (NHS). Where there is a private market for medical care (e.g., in surgery), consultants often opt for part-time NHS work and supplement their income by private practice. There are, of course, wide variations in the scope for private practice between specialties. Thus some consultants receive NHS salaries, NHS distinction awards, and private practice income [about 50 percent of consultants do some private work (*12*)]. Private income possibilities limit the propensity indicated above for practitioners to press for more staff to reduce workloads. More staff where there is private practice may reduce the income of incumbents. To the extent that this motivation is operative, it should have resulted in differential pressures across specialties for staff supplementation. Between 1963 and 1974 hospital physician staff in England, Wales, and Scotland grew by over 50 percent to 25,617, but no analysis of private practice or staff growth appears to have been made.

This attribute of private practice is accompanied by another phenomenon that is not so attractive. Public controversy about the "morality" ("queue jumping") of private practice in public hospitals has dogged the political scene in recent times. Further phenomena such as waiting lists may be affected by private practice. Some critics of private practice argue that consultants construct lists to increase delays in treatment and to encourage patients to opt for private treatment. There is a great deal of heat but not always a lot of light in these arguments.

It can be seen from the foregoing that payment systems vary and are by no means pure variants of the three alternatives available. All the variants have been supplemented in one way or another. At present one of the prime objectives of the NHS is geographical equity. The articulation of this objective follows an awakening in public awareness of inequities unaffected by the NHS (*13–17*) and political response to this awareness. Similar developments have taken place elsewhere in Western Europe (*3*).

The greatest omission from the remuneration systems is a system of incentives to encourage physicians to be critical of the therapeutic efficiency of their treatments and to monitor more critically peer performance. Medical audit, peer review, and similar practices are in vogue and their potential in terms of economy is clear. However, it appears obvious that such practices may not prevail unless they are profitable for practitioners. As Aneurin Bevan, Minister of Health 1946–50 and architect of the NHS, is reputed to have argued, the only way to win an argument with the medical profession is to fill their mouths with gold! Only bribery ensures tacit acquiescence.

THE UNITED KINGDOM REMUNERATION SYSTEM AND COST CONTAINMENT

The two principal determinants of expenditure on skilled medical labor are the price of the personnel and the number of personnel employed. Because of the familiar reluctance to analyze the efficiency of work practices and the possibilities of factor substitution, and the desire for higher and more geographically equal levels of provision, the number of physicians being produced in the United Kingdom is rising and will, in time, contribute to the probable world surplus which will result from parallel expansions in Western Europe and North America. More detailed analysis of these developments is provided in Chapter 28.

The price of services has changed in relation to supply pressures and the demands of the buyer, NHS. This interaction between the profession, a monopoly, and the buyer, a monopsony, is of interest. The outcome of bilateral monopoly is uncertain and related to the relative bargaining power of the contestants. It is sometimes argued that the monopsonistic powers of the British government may enable it to hold the remuneration of physicians at levels lower than those paid in other markets. Casual empiricism (*3*, *9*:37–38) indicates that U.K. physician payment levels are lower than those in Germany, the Netherlands, Luxembourg, Belgium, France, Denmark, Italy, and the Republic of Ireland. The empirical verification of a causation between two factors which are correlated has not been attempted. Until such work is carried out, the argument that the U.K. government's monopsony may be an effective check on the ability of the medical profession to earn a high level of remuneration is a priori plausible, but unsubstantiated empirically.

If the government exercises monopsonistic power in this way, physicians in the United Kingdom have an incentive to brain drain. The costs of their education (£26,000 per capita in the early 1970s) is met by the state despite pressures for alternative systems of student finance (*18*). The benefits of their education are relatively higher abroad, provided they can gain access to medical markets overseas. The result of a European Economic Community (EEC) directive in 1975 is that medical standards have been harmonized throughout the European community and free mobility of physicians is permitted. It will be interesting to see how long it is before labor begins to migrate eastward from the United Kingdom; the financial benefits are clear but so are the foreign-language barriers.

The British government has intervened in the medical manpower market in a variety of ways. The quantity of manpower has been manipulated as a result of naive manpower exercises. The price of manpower has been elaborated and possibly contained. Containment may have arisen, vis-a-vis other markets, because the profession's monopoly power may have been countered by the state's monopsonistic power. The price has been elaborated in that the price structure has been developed to push labor (negative direction) and pull labor (designated area allowances) in policy-oriented directions.

The British experience indicates that the containment of remuneration can take place possibly at both the macro and the micro levels. While policy has sought to counter expenditure inflation, its route has been traditional rather than radical. Such conservatism does not give us access to the potentially substantial savings that might accrue if radical new practices of evaluation were internalized by the medical profession. While we can appeal to the moral code of ethics of practitioners in the hope that they will return to the "true faith" of cost minimization and therapeutic effectiveness, we may induce these latter-day priests to adhere to the faith more rapidly if, to reiterate Bevan, "we fill their mouths with gold" by adapting our payment systems more closely to the policy objectives of health care.

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ALTERNATIVE APPROACHES TO THE REIMBURSEMENT OF PROVIDERS TO REDUCE COSTS OF HEALTH CARE

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FACTS ABOUT HOSPITAL SERVICES IN THE FRG

Basic Principles for the Structure of the Hospital Market

In the past, the type and number of hospital beds was not regulated by federal, state, or local authorities. Hospital services in the Federal Republic of Germany (FRG) originated in the isolated and uncoordinated hospitals and nursing homes in the Middle Ages. At the beginning of the 20th century, a variety of small hospitals were built on the initiative of public and voluntary hospital owners. Type and number of hospital beds were determined almost exclusively by the initiative and ideas of the individual hospital owners and doctors. Consequently, there is no lack of hospital beds today, but an inadequate and disproportionate regional distribution and grouping of specialized beds and relevant facilities for diagnosis and therapy.

Irrespective of this opinion, the state will not, in future, extend its activities in the medical field beyond the existing scope. The medical care for in- and outpatients will be left, as before, to private initiative and voluntary and nonprofit self-help. The state will act only as supplier of medical services in cases where voluntary self-help and private initiative are not sufficient. Now as before, about 40 percent of all hospital beds are owned privately and most public hospitals are owned by local authorities.

Because the state intends to meet its responsibility for ensuring hospital care for the entire population under equal terms and available at any time, it undertakes regional hospital planning. The voluntary self-help on the side of the supply of health and hospital services corresponds with the insurance principle on the side of demand. Health and hospital services are financed by prices for services. Thus, about 90 percent of the population are insured compulsorily by the social health insurance. About 5 percent have another legal right to reimbursement of the costs of illness (social welfare, army, etc.). The remaining 5 percent pay their own costs of illness; most of these persons are privately insured.

Structure and Organization of Health and Hospital Services

Typical of the present method of organizing health and hospital services in the FRG is the separation, as regards organization, personnel, and finances, of the various branches of care, particuarly the division between inpatient and outpatient treatment. One striking feature is that hospital facilities are devoted to the treatment of inpatients; outpatients and those semi-hospitalized are not significant at the present time.

Doctors who are in private practice take care of nonhospitalized patients, either as general practitioners or as specialists. These doctors are grouped in associations (*Kassenärztliche Vereinigungen*) under contract to social health insurance. It is the responsibility of these associations to ensure an adequate supply of general practitioners and specialists and to assume responsibility for payment of all services by doctors in private practice under the social health insurance plan. With few exceptions, hospitals are not licensed as institutions to treat nonhospitalized patients. Specialists on the hospital staff are called in for nonhospitalized patients only if in the town or district there is no appropriate specialist in private practice. In such cases patients with social health insurance cannot consult the hospital doctor directly, but must be referred to him by a general practitioner or specialist in private practice.

All doctors in private practice are self-employed and work as "medical contractors," whereas doctors working in hospitals are on the staff. Medical superintendents of hospitals are allowed to accept payment directly for the treatment of private patients.

The duties of the hospitals are limited to inpatient care. Facilities for semi-hospitalized care, e.g., day or night hospitals, are available only for psychiatric treatment. The outpatient work of hospitals is insignificant.

Expenses for Health Services

The development of health and hospital services is characterized by an increasing demand as well as a permanent rise of investment costs, operational costs, and staff supply.

From 1955 until 1973 the number of disabilities within social health insurance rose by 126.7 percent (from 535 cases to 1,213 cases per 1000 members) and the number of disability days by 85.7 percent (from 12,123 to 17,203 days per 1000 members). In the same period the density of hospital beds increased by 7.6 percent (from 10.59 to 11.4 beds per 1000 inhabitants); the number of admitted patients, by 25.4 percent (from 122.9 to 154.1 cases per 1000 inhabitants); and the frequency of patient days, by 3.7 percent (from 3,476 to 3,606 patient days per 1000 inhabitants); and the average length of stay decreased by 17.3 percent (from 28.3 to 23.4 days).

In 1969 the budget for health expenses rose to about DM43,600 million for the costs of prevention, illness, and incapacity. By 1975 this expenditure had increased to about DM106,300 million, more than double. For 1979 an expenditure of about DM159,400 million is expected. Based on this estimate, expenditures for the period 1975–79 will increase about 50 percent. If we include money paid to private health insurers as well as direct payments to doctors, chemists, and others, the total for this period probably will amount to about DM117,000 million, 11.3 percent of the gross national product (GNP).

There is a parallel development in the field of staff supply. From 1955 to 1973 the number of personnel engaged in health services increased by about 78.5 percent (from 462,660 to 825,702). The number of doctors increased by 54.2 percent (from 71,967 to 110,980), and the number of nursing staff, by 94.9 percent (from 124,673 to 242,958). The development in the field of hospital services is as follows: total staff—increase by 115.5 percent (from 298,219 to 642,608; doctors— increase by 82.6 percent (from 30,539 to 55,749); nursing staff—increase by 129.2 percent (from 95,123 to 218,066).

Hospitals, Hospital Beds, Hospital Performances, and Hospital Staff

The number of hospitals in the FRG (including West Berlin) amounts to 3,483, with a total of 716,530 beds; an average of 11.6 hospital beds pe 1000 inhabitants. This ratio of hospital beds varies between 5.8 in Schleswig-Holstein and 10.2 in Bremen (or West Berlin 12.5). Still greater are the regional differences of the number of hospital beds within the various states. These regional differences, however, do not permit us to draw any definite conclusion as to a regional variation of need since i has to be taken into account that some of the hospitals are of more tha local importance (university hospitals, larger municipal hospitals, and special hospitals, such as tuberculosis sanatoria). Through the imposition of the various catchment areas, the regional differences in the total number of beds are partly balanced, mainly within the various states.

Of all hospital beds 54.1 percent are in public hospitals; 35.4 percent, in nonprofit, private (so-called voluntary hospitals; and 10.5 percent, in profit-making, private hospitals. The number of beds in public hospitals has declined somewhat during the past few years, whereas the number of beds in voluntary and private hospitals increased.

Looking on the classification of hospitals as to bed capacity, the main emphasis is on hospitals of 100–200 beds (17.2 percent). They are followed by hospitals of 200–300 beds (16.6 percent) and by hospitals with 300–400 beds (12.2 percent) and 18.3 percent of all beds are in hospitals with more than 1,000 beds (university hospitals, larger municipal hospitals, tuberculosis sanatoria, mental hospitals and homes, etc.) In public hospitals, 50.6 percent of all beds are in those with 500 and more beds; in voluntary hospitals, the concentration lies with hospitals between 150 and 500 beds (64.9 percent of hospital beds); and in private hospitals, about 60 percent of all beds are in those having up to 150 beds.

The interesting point is that, compared to previous years, the number of beds decreased in smaller hospitals and increased in larger ones. The most suprising is the increase in the number of beds in hospitals of 200-500 beds. The average bed capacity is one of the problems in the FRG. Because there are 3,483 hospitals with a total of 716,530 beds, the average bed capacity amounts to 206. The optimal, average bed capacity would be 450-500 beds. That would mean we need only about 1,500 hospitals instead of 3,480.

Of all hospitals in the FRG, 67.9 percent are general hospitals, each having several medical departments (surgery, internal medicine, gynecology/maternity, and departments for throat, nose, ear, and eye diseases, etc.). Special hospitals account for 32.1 percent. They specialize either in the treatment of certain kinds of diseases or groups of diseases (surgical hospital, lying-in hospital, orthopedic hospital) or in special ways of treatment (observation hospitals, sanatoria). In terms of beds, the proportion is general hospitals 67.0 percent and special hospitals 33.0 percent. It is usual to distinguish between hospital beds for so-called "general hospital services" or "acute hospital services" and so-called "special hospital services." Hospital beds for tuberculosis, cripples, psychiatric cases, addicts, and those for chronic diseases rank among special hospital services. They are characterized by the longer average stay and are as a rule of great supraregional importance. The bed ratio for special hospital services amounts to 3.7 per 1000 inhabitants. Any other hospital beds in general and special hospital classes are the so-called "general hospital services." These hospitals are characterized by a short average-stay period and are mostly of limited regional importance. The bed ratio for general hospital services is 7.9 per 1000 inhabitants.

Approximately 10.3 million inpatients were treated in 1974 and the number of hospital days amounted to about 224 million. For each 1,000 inhabitants there are some 159 hospital admissions and some 3,615 hospital days. Every hospital bed, on average, was occupied for 313 days; the average occupancy thus came to 85.7 percent; the average length of stay was 22.7 days. The high average for the stay period is due to the very long stays in some special departments (particularly tuberculosis, psychiatry, and orthopedics). The general hospital service shows an average length of stay of about 17.2 days. The average number of patients treated under general hospital service is 145 per 1000 inhabitants. This number has increased constantly during the past years. In 1960 the figure was about 110.

Hospitals in the FRG employ about 58,430 doctors; 51,041 full-time physicians and about 6,221 part-time physicians, called *Belegärzte*, who work in hospitals and in their own surgeries. In addition, there are 2,170 dentists and other doctors as well as about 5,142 medical assistants, called *Medizinalassistenten*. The number of nursing employees totals 238,812 plus 68,992 nurses in training. In departments for diagnosis and therapy, 51,613 persons are working, and in supply services and administration, 197,665 and 48,326 persons, respectively. The total number of personnel in our hospitals is 689,440.

Economic Importance of Hospital Services

A description of the hospital system in the FRG requires a short survey of its economic position. Exact statements as to the financial and economic importance of hospitals in the FRG are not available—neither the total expenditure, nor the turnover, nor the fixed assets. About 65–70 percent of our hospital beds are older than 20 years, which means they were built before 1950, most of them before World War II. Only 30–35 percent were built after 1950, most of them after 1960. Taking the average rebuilding costs of our hospitals, we can estimate the value of the capital invested in the hospital system at DM70,000–80,000 million.

The annual turnover exceeds DM25,000 million, which means the economic position of hospital services corresponds to that of the federal post office, the federal railway, or heavy industry.

The investment costs per bed vary between DM100,000 and 150,000, for planned hospitals about DM150,000 and 200,000 (1950: DM15,000–20,000; an increase of about 800–1,000 percent). This increase is due partly to price development, but mainly to the increase of building volume (1950: 50 square meters per bed; 1975: 70-80 square meters per bed).

About 60 percent of the operating costs are for personnel, and the cost of material goods (medicine, food, water, power, laundry, administration, and other requirements) is about 23–25 percent of operating costs. Of these, the costs of food and medical requirements, each of about 10–15 percent, are of greatest importance. About 12–15 percent of the total costs involve depreciation and maintenance. Financing costs amount to 1–2 percent. Since 1950 hospital costs have increased considerably, about 700 percent and more. Particularly striking is the large increase in salaries and wages and the increase in costs for medical requirements (intensification of treatment and nursing, shortening of the period of stay).

FINANCING, COSTING, AND PRICING HOSPITAL SERVICES

Financing Hospital Services

For patients covered by health insurance, the hospital receives reimbursement in the form of a global daily charge. Hospital costs in the FRG, as in all Western countries, have increased over the years. If these costs were refunded fully to the hospitals by the social health insurance, it would be necessary to increase contributions by the insured. To prevent this, the federal government issued regulations in 1954 limiting the amount of the daily charge.

The difference between actual costs and insurance reimbursement for daily charges was covered by means of unsystematic contributions of the owners or public authorities, as well as by means of private contribution or through withdrawals from the hospitals' real assets.

This, in turn, brought about chronic hospital deficits that were estimated to have reached over 10 percent of the total expenses. Naturally enough, hospitals were extremely dissatisfied and blamed both the social health insurances and the government for these losses. The patients have not been affected by this dilemma.

As a result of this financing system, the government gives nearly the whole population the right to hospital care, and insured persons can demand optimal care in the hospital, without having to consider the cost of the stay.

The government, however, having granted universal hospital medical care, does not allow social health insurance programs to exceed a given limit in fixing contributions for financing the costs of hospital stays, and price-setting authorities ensure that daily charges in hospitals correspond to the ability of the insurers to pay. As a result, conflicts cannot be avoided that make running hospitals more difficult. In 1971, hospitals had an annual deficit of more than DM1,000 million.

Hospital authorities have tried in vain to bring about a reorganization of the hospital financing system to keep the deficit below DM1,000 million.

Three principles of financing were discussed between 1957 and 1972:

1. Full coverage of costs by daily charges and an increase in health insurance contributions, or financial support of health insurance by subsidies from the government.
2. Distribution of daily charges; reimbursement of current operating costs by health insurance; and financing investment costs of depreciation and maintenance by the state, out of taxation.
3. Coverage of all costs by the government, out of taxation.

Hospitals claimed full reimbursement of costs through daily charges, paid by patients or their health insurance, because they feared that to accept a part of maintenance from federal and state revenues would allow the government to exert its influence on the management of hospitals and they would lose their independence. The health insurance claimed financing of investment costs, depreciation, and maintenance by the state, but it, too, feared that the government could extend its influence over health insurance. Proposal 1 could not be realized for political reasons, because no political party would try to increase health insurance contributions. Proposal 3 does not lend itself to the structure of hospital ownership—in other words, the state cannot finance more than 325,000 private hospital beds out of taxation.

The only realistic possibility to reorganize the hospital financial system was proposal 2.

After years of protracted discussion and recriminations in the press and in parliament, the federal government, in July 1972, submitted a draft bill intended to safeguard the financial position of hospitals and regulate daily charges that could be levied by hospitals on health insurance. The new hospital financing law is based on price and cost reimbursement principles. The costs incurred by an individual hospital are reimbursed fully over the prices for services as long as the hospital operates effectively and economically. Broadly, the aim of the new law is to divide hospital costs between operating costs directly incurred by the individual patient, i.e., staff costs, medicine, food, etc., and investment costs (investment costs in legal terms include the costs of building and equipping a new hospital and depreciation—normally they are called "providing costs," *Vorhaltungskosten*). The former now are charged in full to health insurance, and the latter are provided by public authorities (federal, state, and local governments) out of taxation. In 1973 this basic hospital financing law was supplemented by federal government regulations concerning costing and pricing of the operating costs (so-called *Bundespflegesatzvererordnung).*

The main reason for splitting the financing of hospital services into two parts—investment costs and depreciation by the state out of taxation, and operating costs by the patients or their health insurance—was not a financial one, but the need to intensify, qualify, and improve regional hospital planning.

Adhering to the principle of voluntary self-help, there was no governmental regional planning in the FRG. The planning was left to the individual hospital and to regional planning groups of several hospitals. Unitl 1972 this voluntary conformity of the various hospitals within the network of hospital service was supervised unsystematically and supported by the government. In subsidizing the building of new hospitals out of taxation, the health authorities as a rule examine the question of requirement and the suitability in relation to the whole network of hospital service.

The new law regulates not only the financing system but also regional hospital planning. Since 1973, it is up to each state to draw up a hospital plan giving a very general estimate of the necessary number of hospital beds and their regional distribution. The plans of individual hospitals must fit into the framework of the regional hospital plan. Hospitals cannot get money from the state to finance depreciation of an existing hospital or to finance the investment costs for a newly planned hospital if they are not included in the regional hospital plan. Details about implementing the financing of the investment costs and regional hospital planning are determined by state hospital laws. These state hospital laws are not unified federally but differ from state to state. In various states questions of hospital planning and regional hospital planning are determined by these state hospital laws, which also include detailed regulations for management, organizational structure, and work flow of the individual hospital.

Costing and Pricing Hospital Services

Federal, state, and local authorities make reimbursement, one-third each, for the costs of building and equipping a new hospital—not including the cost of the building site. Per-bed costs for different types of hospitals are determined by the states as an upper limit for reimbursable investment costs. The hospital is reimbursed for depreciation each year by a lump sum per bed. The amount of global depreciation charges is thereby dependent on the bed prices for new hospital buildings.

Costing and pricing of operating expenses are regulated in the *Bundespflegesatzverordnung*; all services for patients are accounted for and priced proportionally according to the number of days of hospitalization. For each day, the patient or the insurer is charged a fixed amount (*Pflegesatz*) which, from a medical point of view, covers all necessary and appropriate services—so-called "general services." For additional services (a single room, television, extra food, etc.) patients are charged directly.

Price regulations permit the following method of determining costs: (1) Eliminating costs not incurred directly by inpatient treatment (outpatient department, training and research, auxiliary service, etc.). This is done either by deducting part of the receipts or by estimates. (2) Determining costs for general services by eliminating those for additional services with the aid of estimated cost functions. In so doing, most hospitals take as a basis the "expenditure" incurred for this calculation, but not the actual "costs."

The per diem to be paid by social insurance is negotiated with regional groups of hospitals. The agreed-upon rate is submitted to an official of the state government (*Pflegesatzbehörde*). If that official disapproves the negotiated rate, an alternative is negotiated between the two parties. The state official has the power to make the final determination of the per diem.

According to the hospital financing law, each hospital is reimbursed for its individual costs only to an upper limit determined by the average costs for a group of comparable hospitals. In fact, these regulations are not observed by the states, but hospitals are reimbursed for all expenses actually incurred.

Losses incurred during one period can be brought forward to the next if they are not caused by the hospital's negligence. One condition is for the hospital to undergo an external cost efficiency audit.

USING THE REIMBURSEMENT OF HOSPITALS TO LIMIT OR REDUCE COSTS OF HEALTH CARE

Evaluating the experiences of old and new financing systems for hospital services in the FRG, and reimbursing hospitals in a way designed to limit or reduce costs of health care, the following theses can be set up:

Thesis 1

Balancing need/demand and supply for hospital services cannot be achieved by kind and amount of reimbursement to hospitals. The necessary demand—from a medical point of view—on hospitals and hospital beds must be established within the scope of regional hospital planning. Integrating planning and activities of individual hospitals into regional hospital planning can be settled either by way of licensing or by the so-called "golden grip" (reimbursement of certain parts of costs—e.g., investment costs—relies on the integration of the hospital into the regional hospital planning).

Thesis 2

The decentralized and pluralistic structure of hospital services demands decisive participation of the individual hospital in hospital planning. From this aspect a dualistic responsibility for hospital planning is recommended as sensible, one which leads to a distribution of planning work between the government—federal and state—and the autonomous hospital owners. This regional organization or reorganization of hospital planning is a precondition for the individual hospital owner who should take an interest not only in his own hospital but also in the regional hospital network as a whole.

Starting from this, hospital planning has to be improved as soon as possible. All agree that in the future it will be handled as follows:

1. To develop and determine uniform government principles for the type and extent of "necessary" hospital services in conjunction with the federal governments, the states, hospital owners, and social health insurance.

2. To develop and determine uniform governmental standards for hospital operation and hospital construction in conjunction with the federal governments, the states, hospital owners, and social health insurance.

3. National regional planning on a state basis in the form of plans worked out and prepared in cooperation with hospital owners and social health insurers, and, at the same time, to ascertain the required total number of beds for individual areas, divided according to service levels and hospital units.

4. Planning and implementing nationally by region or area, via plans drawn up by hospital regional planning associations, in conjunction with the state authority responsible for hospital service and with social health insurances.

Putting such a plan into practice depends almost entirely on the ability of the regional planning association to act. The commitment of the individual hospital to decisions of the planning association is a prerequisite. It must be realized that regionalization of hospital planning involves cooperation of the entire population in planning their hospital services.

There are two decisive reasons why—in the long run—regional planning cannot be limited to the field of hospital services, but must be extended to the entire field of health services and include all medical institutions:

1. If the demands for medical services by the total population are to be met, all services must be available within easy reach, not hospital services only.

2. The mutual dependence of various subsystems of the health service—not only in the field of outpatient, semi-hospitalized, and inpatient specialized medical care but also within and between other levels of care—forces a balance and coordination of services by all medical institutions. For example, the kind and extent of outpatient and semi-hospitalized diagnosis and therapy at hospitals influence decisively the number of required hospital beds. The number of hospital beds also is dependent on the kind and extent of care at nursing homes or in domiciliary care, as well as on the kind and extent of general or special medical domiciliary care.

If one considers the limit of personnel and financial resources at the disposal of the health service, then a need for planning resource allocations within the entire field will—in this manner—come about. Here, considerations of the kind and number of medical institutions and their regional distribution—not only within the field of hospital services—is necessary if the target of supply within the entire health services is to reach optimum level.

Considering the high costs of various levels of care and care institutions within the health care system, there is a need for comprehensive, regional health planning. Just as important is continuous cooperation between medical institutions of all levels of care to provide the patient with care adequate for his disease. Insufficient care will influence medical care negatively while more than sufficient care is unnecessarily costly. With such a process it is important to supply all service institutions with complete information about all patients, a demand which can be realized by making use of electronic data processing and installing regional medical data banks. In addition, the understanding and reason of all physicians involved inpatient care are required to lead the individual patient to the service institution best qualified to treat his illness. A sensible, controlled price policy for outpatient, semi-hospitalized, and inpatient medical services can be effective. With such alterations in the fee structure for medical services, public doubts that a justified income for the health services does not always achieve a sensible medical service structure could be abolished.

The efficiency of health service depends not only on regional planning but also on continuous cooperation of all branches of medicine.

If one considers that health service is part of the social infrastructure, it is necessary for the state to recognize that an efficient and economic response to the demand for medical service must be available. This, however, means that, in the long run, the state will be responsible for planning within the entire field of health service and should insist on continuous cooperation of the entire system of medical institutions.

Although the difficulties connected with such a cooperative necessity are not underestimated by the goverment, social health insurers, hospitals, and doctors in private practice, it is possible to create only the preconditions of a liberal structure of health and hospital services in the FRG by using voluntary regional planning and cooperation well organized from bottom to top.

Thesis 3

If financing hospitals by patients or out of taxation is ruled out, clearly defined costs in each case should be assigned to both these financing sources when dual financing by patient fees and taxation is required.

Hospital costs can be divided between providing the hospital and operating it. The former costs include initial investment, depreciation, and maintenance; the latter, staff, material, and financing costs.

Where dual financing of hospitals is used, it is recommended that the total providing costs be financed by taxation, and the total operating costs by patient charges. This form of split hospital financing would make it possible to use reimbursement of providing costs as a guide for regional hospital planning.

The new hospital financing system in the FRG allows only part of the hospital costs to be financed by taxation; depreciation for short-term equipment (about 3 years use) and maintenance costs are reimbursed via patient charges. This randomized split for financing hospital equipment according to its period of use leads to constant disagreement between hospitals, social health insurance, and state and federal governments.

Thesis 4

Care must be taken to ensure that final financing of hospital costs does not allow a financing body to limit some costs to the disadvantage of others and thus create higher costs overall.

Higher investment costs contribute to a decrease in operating costs if, through higher investment costs, operational rationalization is developed. If investment costs are financed through taxation there is the danger that the federal government and the states will limit investment costs to an appropriate extent. As a result, operating costs financed by social health insurance will increase unnecessarily, and the total cost of hospital service will increase more than it would under sensible financing of investment costs.

In dual financing, an agreement about the share of costs to be financed between the financing bodies is required.

Thesis 5

Even though the dynamic factor associated with the concept that competitive price gives maximum profit and efficiency is missing from the cost price, use should be made of the opportunities offered by the cost price as regards incentives.

Fixed cost prices must differentiate between the various categories of hospitals and must be based on the costs of a well-organized and efficient "standard hospital." Cost savings resulting from efficient management by individual hospitals should benefit the hospital concerned (hospital owner, management, and staff), while cost increases caused by uneconomic practices should be borne by the hospital. It must be realized that the financial participation of hospital management in the economic results of the hospital is an absolute prerequisite for observing the principle cost efficiency (dividing salaries into a fixed and variable part and relating the level of the variable part to fulfillment of a specified financial plan). This idea needs careful examination, particularly to guarantee the necessary level of medical, nursing, and catering services to the patient.

The present situation in the financing system for hospitals in the FRG shows, as a result of the cost-covering principle (the price corresponds to the costs incurred in each case), that the individual hospital has no interest in exact price calculations. There also is no incentive to observe the principle of cost efficiency nor any interest in using this method to check the cost and price structure and monitor cost efficiency. Higher costs generally mean higher prices and not smaller profits or higher losses, as is the case with competitive prices. Costs saved by the hospital as a result of improved technology, better organization, higher productivity, or other factors merely reduce prices by the same amount; the only beneficiary is the patient or his social insurance. Of course, in the hospital, service still is more important than the pursuit of profit. However, it would be overtaxing the personnel and the management if these ideals completely replaced the pursuit of profit.

The state governments now try to compensate for the disadvantages of the cost-covering principle by checking the manpower and material input of the hospital for cost efficiency. These price or cost controls, undifferentiated average standards of a number of hospitals, generally are taken as a basis for comparative measures. By this the characteristics which arise by the different medical objectives of the specific structure of the individual hospital for the manpower and the material input are not considered. This kind of checking is not to be regarded as an incentive for cost efficiency. On the contrary, it inhibits initiative among hospital management.

It is clear therefore that reimbursement of total costs incurred by the hospital in the form of prices means that interest in practicing cost efficiency and in monitoring the cost and price structure in the context of the costing system is relatively small.

Thesis 6

Type and number of services in the field of diagnosis and therapy, nursing, and hotel accommodation must, to a certain extent, be limited in advance. Standards for those services are different among the various hospital categories, medical disciplines, and groups of illness.

The standards of performances in the fields of diagnosis, therapy, treatment, and nursing are determined by self-responsibility and self-administration on the part of medical and nursing staff (both in individual hospitals and within different medical and nursing associations). On the other hand, standards of general patient care and accommodation are established within the scope of the health and social policies of the federal and state governments.

Finally, fixed-cost prices as incentives depend on the degree to which the amount of services delivered to patients can be specified and limited in advance and checked. If that is not possible, the efficiency of fixed-price costs can be greatly impaired because the price pressure can be evaded by providing a lower level of service, and cost efficiency can be compensated for by a reduction in personnel, cuts in food and accommodation, and so on.

Thesis 7

The fixed-cost price should not be established as a global daily charge because this does not correspond to the cost structure of hospital services (fixed and variable costs per patient).

Therefore, the following price form is recommended: Reimbursement of fixed-cost prices for all direct services for the patient (particularly diagnosis and therapy, as far as they are independent from the length of stay) plus a smaller daily charge or reimbursement of the total costs for the patient's stay in the form of a fixed-cost price. In both cases prices must vary among the medical specialities or groups of illnesses.

In this way, costs and prices are parallel and such a price structure will deter the financial interests of hospitals from increasing the length of stay unnecessarily and will force the individual hospital to calculate its costs properly.

In the FRG the present price structure (global daily charge) induces hospitals to increase the length of stay of inpatients unnecessarily. Because high costs for diagnostic and therapeutic services arise on the first days, the costs decrease with the length of stay. Thus, the longer a patient stays in the hospital, the smaller the daily cost. Hospitals receive an average fixed charge for each patient day. Although in the first days of the hospital stay costs are higher than the daily charge, at the end of the stay, the daily charge is higher than the costs. In other words, hospitals have a direct financial interest to increase the length of stay if they receive fixed prices proportionate to the length of hospitalization.

Thesis 8

The large share of fixed costs for a certain period leads to a situation where the costs per patient day and per patient stay decrease, and vice versa, with the increased number of beds occupied. In times of lower occupancy the hospital must give special attention to the accrued additional costs so that they also are reimbursed. If these costs are not reimbursed, hospitals will be tempted to keep patients longer. If this lower occupancy rate lasts for a longer period and is a result of a decreasing demand for hospital beds, the bed capacity of the hospitals must adapt to the changes in demand, within the scope of regional hospital planning. This way, additional costs resulting from the lower occupancy rate can be reduced.

Thesis 9

It is important that the level of care does not become excessively high (e.g., inpatient care instead of outpatient, intermediate instead of self-care). Because the decision on the level of care is made by physicians, physicians must ensure that patients do not receive too much care. For example, doctors are paid by salary for work in the intensive- and intermediate-care departments and they are paid on a fee-for-service basis in the self-care and outpatient departments. There will therefore be an incentive to encourage the latter types of care.

Thesis 10

The demand on health and hospital services in highly developed, industrial countries has been increasing faster than the national income for a long time. This development is due to high living standards and is true of the entire service field. In addition, medical progress and specialization have stimulated the demand for health services. From an economic standpoint, it is irrational to propose that the proportion of the GNP spent for health services be reduced. This, however, does not mean that the cost growth of the last 15 years can continue. If it does, the costs for hospital and health services will increase more than the GNP.

From this point of view, it is necessary for governments and social health insurers to limit the annual increase of performances and thus the annual increase of costs for hospital and health services by setting an upper limit for cost increases.

For the years 1976–77, the social insurance organizations and the associations representing doctors in private practice agreed to limit the increase in total fees for laboratory performances to 4 percent annually, and limit the total fees for all other medical services to 8 percent annually (4 percent for inflation and 4 percent for expanding services).

In agreement with the social health insurers, the federal and state governments will limit the increase in costs of hospital services in a similar way for 1976–77.

By this system, financing of hospital and health services by fees for services is supplemented by a more global budgeting system. Such global budgeting of the total costs for hospital and health services and reimbursement on a fee-for-service basis makes it possible to limit to a reasonable extent the increase in services offered by hospitals. The disadvantages connected with the detailed budgeting of individual hospitals or individual doctors' practices by the government or by health insurers are avoided.

Thesis 11

In the long run a containment of health care costs is possible only by transferring functions that are less demanding in capital and personnel from the hospital to other areas of the total health care system, primarily to semi-hospitalized, outpatient, and ambulatory care. A solution of this problem can be found only by integrating specialized medical care inside and outside the hospital. The best way would be a personal integration: Neither the majority of specialists involved in hospital and ambulatory care nor the patient need change when the patient is transferred from ambulatory care to hospital care or vice versa. Under an integrated plan, the doctors in primary care refer the patients to the hospital or a group practice for specialized treatment. There it is decided whether the specialized diagnosis and treatment should be carried out on an ambulatory, semi-hospitalized, or inpatient basis. In this way, the preliminary diagnosis and follow-up treatment could be organized largely on an ambulatory or semi-hospitalized basis. The main advantage of integrating specialized medical care is the increase in medical efficiency and economy that results.

Insofar as this kind of personal integration in specialized medical care is not yet achieved, consider the following: If a general practitioner or a specialist in private practive refers a patient to a hospital, the specialist in the hospital should be allowed to decide whether to treat the referred patient on an outpatient, semi-hospitalized, or inpatient basis. These decisions are concerned primarily with the preliminary diagnosis and the follow-up treatment (called *Vorstationäre Diagnostik* and *Ambulante Nachbehandlung*, respectively).

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RESULTS OF HOSPITAL PROSPECTIVE REIMBURSEMENT IN THE UNITED STATES

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INTRODUCTION

There is presently an intense interest among lawmakers, third-party purchasers of health care, and the public in the cost of providing adequate health care. In particular, attention has focused on the cost of hospitalization. The strategic position of the hospital in our health care system and the predominant role hospital cost increases have played in escalating the costs of the health care system as a whole have led to the concern over the cost of hospitalization.

In fiscal 1975, the U.S. hospital bill reached nearly $47 billion—3.5 times more than it was just 10 years earlier. While community hospital, semi-private room charges have leaped nearly 200 percent in this 10-year span, general prices for consumer goods and services have risen less than 66 percent. Without major changes in hospital financing or delivery, there is no end in sight to the inflation. Mostly as a result of price inflation, Medicare hospital outlays are projected to rise 19.0 percent in 1976 and another 17.4 percent in 1977.

In an attempt to control the skyrocketing cost of hospital care, several states and many Blue Cross plans have implemented prospective rate reimbursement systems. Prospective payment systems set an amount to be paid to hospitals for a unit of hospital service (usually expressed as one day of hospital care) in advance of the period during which the care is to be provided. These prospective payment systems replace cost reimbursement, which is still the prevalent method of reimbursement employed by Medicare and Medicaid programs and the majority of Blue Cross plans. Under a cost reimbursement contract, the hospital is reimbursed automatically and retrospectively for all allowable expenses incurred during the fiscal year. Many health care professionals believe that the open-ended nature of cost reimbursement arrangements has provided an incentive for hospitals to expand the volume and complexity of their services without concern for the costs or the needs of the public. Advocates of prospective payment systems believe that prospective reimbursement offers different incentives, as indicated in the following excerpt from the Social Security Amendments of 1972 (*1*):

> . . . payment determined on a prospective basis offers the promise of encouraging institutional policymakers and managers, through positive financial incentives, as well as the risk of possible loss inherent in that method, to plan, innovate and generally to manage effectively in order to achieve greater financial reward for the provider as well as a lower total cost to programs involved. Prospective reimbursement differs from the present method of reimbursement in that a rate of payment is set in advance of the period over which the rate is to apply. Theoretically, this approach to reimbursement introduces incentives not present under the existing reimbursement method.

At the present time, 26 prospective reimbursement systems are in existence in 22 states. These systems are fairly substantial, involving about 25 percent of the nation's hospitals. These systems also take a variety of forms. Eight states have established public rate-setting agencies which approve prospective rates and review requests for modification of those rates. In three of these states, special commissions have been organized specifically to perform these functions. In the remaining five, this same power is vested in previously existing public agencies such as health departments. In half of these states, the rate-setting agency is also responsible for purchasing health care services for the public sector.

In addition to the eight state review systems, 16 of the 74 Blue Cross plans are sponsoring prospective reimbursement systems. In two states, such systems operate along with state programs. In two other states, nonprofit corporations have been established under the sponsorship of state hospital associations to set prospective rates on a voluntary basis.

The Social Security Administration was empowered by Congress, through the Social Security Amendments of 1972, to support the development and implementation of prospective reimbursement experiments and to evaluate their effectiveness in containing hospital cost inflation. In order to gather all the information available regarding the impact of prospective payments on hospital costs, the Office of Research and Statistics of the Social Security Administration contracted in 1974 with several research firms to evaluate the effectiveness of seven existing prospective rate systems in six states: Pennsylvania, New York (upstate and downstate), New Jersey, Rhode Island, Indiana, and Michigan. This paper will present a summary of the results of the evaluations of the prospective payment systems in four states: Pennsylvania, New York, New Jersey, and Rhode Island. The evaluation of the prospective payment system in Michigan, which is being conducted by the University of Michigan, School of Public Health, will be completed in late 1977, while the evaluation of the system in Indiana will be submitted this summer.

Our presentation of the findings and implications of the evaluations is divided into three sections. First, I will discuss the methodologies which were used by the evaluators to estimate the cost impact of prospective reimbursement. Second, I will give an account of the specific evaluation results in each of the four states under study. And last, policy considerations which may be gleaned from the evaluations will be enumerated and analyzed.

METHODOLOGIES

The primary concern of the evaluations was to determine the impact of the prospective payment system on the cost of hospital care. In order to determine the effectiveness of a prospective payment system, we must know what would have been the behavior of hospitals in the absence of a prospective rate system. Two procedures may be used to isolate and estimate the effect of prospective reimbursement: (1) We may compare for a single state the rate of increase of hospital costs before and after the implementation of a prospective rate experiment. (2) We may compare the rate of increase of hospital costs in a state with a prospective rate system (experimental group) with the rates of increase in comparable hospitals in a state lacking a prospective rate system (a control group).

Both of these methods have drawbacks. The "before and after" approach does not consider the effects of factors other than the prospective payment system which may have changed during the period. For example, if a prospective payment system were operational during the same period as the Economic Stabilization Program (ESP), it would not be possible to separate the different impacts of each program through a time-series analysis of data obtained from a single state, even though the data included observations from before and after the implementation of the prospective rate program. In each state under study, the prospective rate experiment was operational during the same interval of time as the ESP. Consequently, it is necessary to compare hospitals from different states in order to control for the existence of the wage and price controls.

Interstate comparisons between hospitals, however, implicitly assume that different states possess comparable environments. Since the control groups in these evaluations are used to illustrate what would have occurred in the experimental group in the absence of a prospective rate program, it is important to select control hospitals in a state which has similar market characteristics and similar standards for medical practice. Each evaluator selected a control group of hospitals and employed both an interstate analysis using data from the experimental and control areas and a "before-and-after" study of data from the experimental state.

Cost function analysis was used to isolate and estimate the impact of prospective reimbursement in both regressions involving single state time-series data (before and after analysis) and in regressions which included data from the prospective reimbursement state and control state. The use of cost function analysis allowed us to control for factors other than the reimbursement mechanism which affect hospital costs (e.g., output levels, case-mix intensity, occupancy rate, etc.). Several evaluators accounted for the existence of a prospective reimbursement program through the inclusion among the independent variables of a prospective reimbursement, dichotomous variable. The prospective reimbursement variable was set equal to 1 for hospitals which participated in the experiment and 0 for those not in the prospective reimbursement system. An alternative measure of prospective reimbursement employed in three evaluations was to represent the influence of prospective reimbursement through a variable measuring the proportion of the revenue received by a hospital which is subject to the prospective rate. In most experiments, the prospective rate was applicable to Blue Cross and Medicaid patients. Medicare continued to reimburse on the basis of costs in all areas and commercial insurers paid charges usually outside the control of the prospective reimbursement system.

EMPIRICAL RESULTS

The presentation of the empirical results of each evaluation will be preceded by a brief description of the organization and scope of the prospective reimbursement programs under evaluation.

Western Pennsylvania

The Blue Cross of Western Pennsylvania (BCWP) has initiated and participated in numerous innovative experiments in the field of reimbursement during the past 25 years. Beginning in 1950, the BCWP categorized hospitals in order to set maximum limits for per diem reimbursements. The involvement and commitment of the BCWP to experimentation with new payment mechanisms was exemplified by the implementation in July 1971 of a prospective payment experiment. Five hospitals from rural western Pennsylvania, one of which is a rehabilitation center, volunteered for the experiment. In July 1974, the system was included as an option for all western Pennsylvania hospitals, and 11 hospitals entered the experiment.

The approved per diem rate for each hospital is derived by the BCWP from data for the current and the base year. (The base year is 2 years before the year of the prospective rate and 1 year before the current year.) Initially, expenses for the base year are divided into operating and nonoperating expenses because the formula restrictions apply solely to operating expenses. Base year operating expenses are divided into three categories: (1) general operations—routine services; (2) general inpatient care—ancillary services; and (3) other expenses, including outpatient services.

In order to derive the allowable current year operating expenses, the base year general operations expenses per bed, general inpatient care expenses per day, and other expenses are compared with the corresponding values for these categories for the current year. The allowable current year operating expenses are determined using the lower of the hospital's or the composite rate of change for each category. The composite rate of change for this step is the average rate of change for the hospital over the past 3 years plus the average rate of change for the hospital's group divided by 2. (Hospitals are assigned to a group by the BCWP according to their location, teaching status, and bed size.)

After determining the allowable current year operating expenses, these expenses are divided into seven natural expense categories (salaries, fees, food, drugs, utilities, maintenance, and other). The budgeted per diem value for each of these seven categories is compared to an estimate of each category's expense derived by applying the expected inflation rate obtained from data from the Bureau of Labor Statistics (BLS). And, again, the allowable rate of increase is determined by using the lower of the hospital's or the composite rate of change for each category. The composite rate for this calculation is obtained by adding the budgeted increase for each category and the expected increase due to inflation and dividing by 2.

The approved per diem rate is obtained by adding the approved operating per diem rate and the approved nonoperating per diem rate (nonoperating expenses are reviewed and approved by the BCWP, but not subject to any maximum formula.) In addition, total hospital expenditures are adjusted retroactively. Total reimbursement is limited, based on a comparison of the hospital's per diem cost to that of its group. The maximum reimbursable cost per patient day for each hospital is set at a level which is 12 percent above the group mean cost per patient day.

The evaluators analyzed data from fiscal years 1971-74 and concluded that the five hospitals which participated in the experiment registered smaller increases in nonphysician-dominated departments (e.g., operation of plant, maintenance, dietary, laundry, and linen) than the control hospitals (*2*). The 10 control hospitals were selected from western Pennsylvania on the basis of the population in a county living in a rural area, complexity of services, bed size, percent occupancy, ownership, and the existence of teaching programs. The cost of operating the nonphysician-dominated departments (general service departments) increased 75 percent for the control hospitals and 52 percent for the prospectively reimbursed hospitals during the period between 1971 and 1974. In addition, there was no perceptible difference between the rate of increase in costs for the ancillary departments between the control and the experimental hospitals. The evaluators concluded from this observation that hospital administrators, when faced with the need to control expenditures, were reluctant to implement these cuts in the ancillary departments which they felt were important in keeping and attracting physicians.

New Jersey

New Jersey was among the first states to limit reimbursement paid to hospitals. In 1958, through the authority granted in the 1938 Blue Cross enabling act, the Commissioner of Insurance imposed ceilings on Blue Cross rates of payment. Hospitals were able to appeal for an exception to an advisory committee whose members were appointed by the Commissioner of Insurance. In 1971, the New Jersey legislature passed the Health Care Facilities Act, with the objective of establishing an administrative and regulatory structure to insure the provision of high quality care at reasonable costs. The law resulted in a mandatory prospective rate system where the gathering, preparation, and analysis of hospital budgets were performed by staff members of the Hospital Research and Educational Trust (HRET), which is a subsidiary corporation of the New Jersey Hospital Association. The Advisory Committee to the Commissioner of Insurance was given the responsibility of reviewing, before final approval, per diem rates for Blue Cross and state-supported patients. To assist their decision-making process, the Advisory Committee relied almost entirely on information and analysis provided by HRET staff concerning the reasonableness of each budget.

Due partly to the publication of *Bureaucratic Malpractice* (*3*), a study produced by the Center for Analysis of Public Issues attacking the role of HRET in the budget review process, the information and analysis for the Advisory Committee now are provided by state employees of the Department of Health. The new system has been in operation since the summer of 1974 and was not analyzed by the evaluator because of the unavailability of data from this period at the time of the evaluation.

The evaluators of the New Jersey prospective rate system concluded that there was no statistically significant relationship between prospective reimbursement and costs, productivity, or quality (*4*). Although the coefficient of the prospective reimbursement variable was insignificant in the estimated cost functions, it was negative. The size of the negative coefficient suggested that the prospective rate program in New Jersey was associated with cost levels 2 to 3 percent per year lower for a patient-day of care than would have been experienced in the absence of a prospective rate program. These results were robust across a wide variety of linear and log-linear specifications of the cost functions which included pooled time-series, cross-section regressions (hospitals in the Philadelphia area were used as a control group), lagged adjustment models of pooled time-series, cross-section regressions, and individual-year regressions of the New Jersey and control hospitals.

Rhode Island

The Director of Business Regulation in Rhode Island regulates Blue Cross rates. In 1970, the hospitals in Rhode Island presented budgets to the Blue Cross plan which, if implemented, would necessitate a 40-

percent increase in Blue Cross rates. Under sustained pressure from the public and the media, the Blue Cross plan asked each member hospital to decrease its proposed expenditures by 3 percent to an overall rate of 15 percent. The Hospital Association of Rhode Island (HARI) refused to limit planned expenditures and was prepared to help each hospital defend its budget in public hearings. Eventually, however, after bitter attacks from the public and media, the hospitals agreed to guarantee rates at a level which resulted in a 15-percent increase in revenues. However, Rhode Island Hospital, the state's largest and most prestigious institution, arrived at a different arrangement with Blue Cross which included a negotiated budget and a prospective rate for fiscal year 1971.

The budget review process which was developed by Rhode Island Hospital and the Rhode Island Blue Cross Association for fiscal year 1971 was adopted by the HARI and the Blue Cross plan for implementation for fiscal year 1972 for all Rhode Island hospitals. The program was operational for fiscal year 1972 for all hospitals, but was discontinued for fiscal year 1973 because of complications arising from the simultaneous operation of the ESP and the prospective budget review system.

The control group used in the analysis of prospective reimbursement in Rhode Island was composed of the 12 short-term general hospitals in Massachusetts for which case-mix data were available from the Professional Activities Studies (PAS) for the time period under investigation (1969–72) (*5*). The evaluators estimated the impact of prospective reimbursement through the estimation of a cost function with a dummy variable set equal to 1 for the Rhode Island hospitals in 1971 and 1972. The estimated coefficient for the variable is an estimate of the combined effect of the experiment and the ESP in the equations using all observations from Rhode Island from the period 1969–72 and is an estimate for the separate effect of the experiment in using Rhode Island and Massachusetts control group hospitals for 1971 and 1972. The sign of the coefficient for prospective reimbursement was always negative, but only significant in the equations which estimated the combined effect of ESP and prospective reimbursement. For equations which measured only the impact of the experiment, the evaluators found the coefficient of the prospective reimbursement variable to be negative and insignificant. In terms of percentages, the impact of the prospective rate program on inpatient expenditures was estimated to be between 2 and 6 percent, depending upon the year and specification of the cost function.

New York

The state of New York and the state's Blue Cross plans operate the only prospective reimbursement system in the nation which sets prospective rates solely on the basis of statistical formulas with no retroactive adjustment. Because of the magnitude of the program and the uniqueness of the experiment, there has been particular interest among health care researchers and policy makers in this program.

The New York prospective rate system began operation in 1970 and does not include a review of hospital budgets or analysis of their internal operations, but does, however, permit a hospital to file an appeal for the adjustment of its prospective rate after the prospective year. Hospitals complain often and vehemently that severe understaffing of the Division of Health Economics in the state Department of Health has rendered the appeals process hopelessly slow and completely unpredictable. There are between 150 and 250 hospital appeals submitted each year to the state Department of Health requesting an adjustment of the prospective rate. Often, an appeal is pending for a year and in a few instances the final resolution of an appeal has taken over 3 years.

There are actually three different but similar rate setting programs in New York State which set reimbursement levels. The state Department of Health operates directly the program which establishes hospital rates in New York State for services received by Medicaid recipients, and it delegates to the local Blue Cross plans responsibility for setting Blue Cross payment rates. The Associated Hospital Service (AHS), the downstate Blue Cross plan, sets rates for Blue Cross patients in the 17 lower counties of New York State. The seven upstate Blue Cross plans jointly operate a prospective rate system which handles Blue Cross patients in the upstate region.

Prospective rate systems of the state Department of Health, AHS, and the seven upstate Blue Cross plans are remarkably similar in content and process. The prospective rates in the New York systems are derived from actual costs incurred in the base year (2 years prior to the prospective year). Routine costs of each hospital in the base year are subject to a ceiling which is equal to 110 percent of the routine costs for a group of similar hospitals. Any costs in excess of 110 percent of the peer group average are disallowed. The routine costs are then added to ancillary and education costs and a trend factor, which is derived from a 3-year moving average of specified price indexes, is applied to arrive at a prospective per diem rate.

Separate evaluations of the impact of the prospective rate program on upstate and downstate New York hospitals were conducted. The findings from the evaluation of the upstate New York hospital study are presented first.

The major finding of the upstate New York evaluation was that hospital costs grew less rapidly under prospective payment than would have been expected in its absence (*6*). However, the estimates on which this finding is based are not statistically significant, suggesting both that there were considerable differences in the responses of the hospitals in upstate New York to the prospective reimbursement formula and that some caution must be exercised in generalizing these results. The estimated coefficients for prospective reimbursement in the cost analysis indicated that total costs per patient-day were $0.88 lower per year and total costs per case were $11.00 lower per year due to the prospective reimbursement program. This result, in turn, implies that prospective reimbursement has lowered the average cost per patient-day by about 1 percent per year and the average cost per case by about 2 percent per year.

The cost containment impact of prospective reimbursement in downstate New York was examined by comparing cost increases in downstate New York hospitals before and after the introduction of prospective reimbursement (7). In addition, the level of cost increases in the downstate New York hospitals was compared to the level of cost increases in the control-group hospitals which comprised all hospitals in metropolitan Chicago, Cleveland, and Philadelphia. The evaluators adjusted the cost figures for outpatient visits and the difference in input prices between regions and found a substantial downward impact on the cost per day and a moderate downward impact on the average cost per case attributable to the prospective rate program in downstate New York. With differences attributable to input price increases factored out, the average cost per patient-day rose 21 percent for downstate New York hospitals as compared with a rise of 39 percent for the control hospitals during the 1968–74 period. And during this period, the average cost per case in downstate New York increased 17 percent, while the average cost per case in control hospitals rose 20 percent. These findings suggest that prospective reimbursement has lowered the average cost per patient-day by about 3 percent per year and lowered the average cost per case by about 0.5 percent per year.

Policy Considerations

The evidence from our evaluations suggest that prospective reimbursement programs under study were moderately successful in lessening the pace of hospital cost inflation. These findings are significant in the sense that they represent the first careful documentation in the United States that prospective reimbursement has an effect on hospital costs. While the findings of all five evaluations point in the direction of cost savings, in many cases the results did not pass rigorous statistical tests of significance and therefore must be interpreted with caution. Another sobering factor is that, even with highly significant statistics, the magnitude of savings (1–3 percent) per year that could be attributed to the systems would not even approach bringing hospital cost increases into line with inflation in other sectors of the economy. In this sense, prospective reimbursement is no panacea. On the other hand, several percentage point savings per year compounded over 10 years would be large savings to the taxpayers.

Our experiences also tell us that prospective reimbursement is as much a political and legal process as an economic one. The ability and desire of the rate-setting authority to set tight reimbursement rates are contingent upon numerous factors, among which are the composition of the body, the nature of the appeals process, the political climate in the state, the nature of participation in the program (voluntary or mandatory), and the process by which rates are set (budget review, budget review by exception, or formula).

Based on our evaluations and other work in prospective reimbursement, we can make certain judgments about factors that are critical to an effective system. First, it is necessary for hospitals in any rate-setting system to submit uniform budget and accounting information before, during, and after the prospective rates are established. Second, any system should coordinate health planning and rate-setting functions, be it through agreements of the respective organizations or through an integrated organizational model such as is envisioned under the Health Planning Act. A third critical element is to ensure that a prospective payment system focuses not only on per diem cost but on total hospital expenditures, including utilization factors. We have found that only a slight increase in hospital utilization can offset all the economies from reducing per diem costs. Fourth, we believe that prospective payment systems will not be fully viable unless they include all payers. This means that wherever possible the Social Security Administration is encouraging and participating in prospective payment systems that include other third-party payers such as Medicaid, Blue Cross, and commercial insurers. Fifth, our experience has taught us that significant cost savings in hospitals will not come about on a purely voluntary basis. Thus, any system of the future will need to be mandatory in some degree. We are exploring a number of alternatives here, short of a complete federal or state takeover of the rate setting function.

Finally, in order to make the rate determination process itself less costly, statistical measures must be developed to guide the decision-making process. Individual human judgment by a regulator of detailed hospital budget proposals is cumbersome, costly, and arbitrary. On the other hand, our statistical and economic models of hospital costs are not precise enough to set reimbursement without helping some who do not need help while, on the other hand, hurting some who do not deserve and cannot afford to be hurt. It would appear that, at this time, the least costly and most equitable prospective reimbursement system would be a combination of tight statistical formulas and a reasonable exceptions process where judgments about special circumstances could occur.

While it would appear from all that I have said that we know a lot about hospital cost controls, there is a lot we do not know. For example, none of the long-range consequences of any of the systems has been tested. In addition, there are now many other approaches to prospective reimbursement in operation in the United States that have not been evaluated. But significantly, in the United States we seem to have focused on controlling hospital expenditures by controlling per diem costs, which might be like trying to climb Mount Everest by starting at sea level. We have yet to implement and evaluate a prospective reimbursement system that controls hospital costs per case. Perhaps most important though, we have yet to observe a case in the United States where a reimbursement system altered significantly the organization of hospital services or retarded the growth in utilization of new services and technology adoption. Since the factors of utilization, service intensity, and technology are major factors in rising hospital expenditures, we must look not only at the reimbursement rate itself for salvation but, perhaps more importantly, look beyond for better ways of decreasing utilization and directly limiting supply.

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17

CONTROLLING COSTS THROUGH METHODS OF PAYING DOCTORS: EXPERIENCES FROM ABROAD[1]

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Universal trends in the world are the rise in medical costs, complaints, and fears that nothing will improve. Several conferences have presented series of national reports with the same themes (*1*). In such fleeting contacts, the authors come away with the mistaken conclusion that everyone has exactly the same problem, that no one has any devices that can regulate the situation, and that everyone is equally doomed. What is needed is thorough comparative research about administrative mechanisms and their actual effects upon costs.

Different ways of organizing the payment of doctors have different effects on the total costs of a country's medical services. At first sight, remuneration is only a small part of the nation's health budget: accounts, as presently written, often show that hospitalization, drugs, and construction absorb more money. However, total payments to doctors for their honoraria and costs are not insubstantial even by traditional methods of accounting. (And they can be made to appear larger in comparison to other items if national medical accounts are written differently.) Even if the rise in costs is not due to spectacular increases in doctors' fees or salaries, a substantial part is due to the rise in utilization of doctors' services, i.e., more treatments per doctor and/or per patient, which may be motivated more by some methods of paying doctors than by others. At the heart of medical costs are doctors' decisions whether to do expensive things, such as hospitalizing a patient or running many diagnostic tests; some methods of paying doctors may reward (and thus encourage) these decisions.

As part of my current research, I am looking for various payment devices that might restrain mounting costs without causing a deterioration of medical care. I am locating whatever supporting data exist. This is a preliminary examination of the problem, and no one can draw any final conclusions now. Comparing countries as a series of natural laboratories in this fashion has never been done, and therefore we have little to build upon except for scattered and noncomparable information from each individual country. Once we identify the most promising devices or the most troublesome situations from preliminary inquiries like ours, we can design careful (but also time-consuming and expensive), comparative studies. The causal mechanisms would have to be studied in depth. The mere intercorrelation among national macrostatistics in econometric structural equations is not good enough for causal explanation.

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This paper comes from a larger research project identifying experiences in other countries that can yield ideas for the design of national health insurance in the United States, particularly about relations with the medical profession. The work began in 1975, with informant interviews and a review of the literature about medical care in the United States in order to identify the most pressing problems in the administration of health insurance here. During late 1975 and 1976, I have been conducting informant interviews, reviews of the administrative and social science literature, and limited field observations in those foreign countries that are the most promising sources of ideas for the United States, viz., Canada, France, the Netherlands, West Germany, Switzerland, Sweden, Belgium, and Great Britain. This paper is a progress report, based on field work in the first five countries.

FEE SCHEDULES AND PRICE CEILINGS

Payment schedules—such as lists of maximum fees—are common methods of controlling payments to doctors in national health insurance abroad. But they are not systems of price control in the United States.

American Use of Fee Schedules

Lists of prices for acts have been common in several American professions, including medicine. Usually they are issued by local professional societies or by insurance carriers. The professional societies describe their lists as "advisory" or "informational," but customers and governments often attack the fee schedules as attempts to fix minimum prices and eliminate competition, in violation of the antitrust laws (*2*). The fee schedules suggested by American professional societies rarely mention maximum fees, but some do in other countries.

Blue Shield plans and private insurance carriers have long used fee schedules for a double purpose: If the patient falls below a particular income level, some doctors (not all) accept the fee schedule in full payment; for other patients, the fee schedule is the carrier's reimbursement to the patient after the latter has paid the doctor. As Americans rise above low-income thresholds for service benefit schemes, the use of fee schedules for such direct third-party payment has disappeared, thereby contradicting the trend in the rest of the world.

When fee schedules are used to reimburse patients in the United States, they do not limit doctors' charges. The fee schedules in American health insurance cover only limited numbers of acts: once almost entirely care by doctors during hospitalization, and now gradually adding ambulatory treatments. No fee schedule is very widespread; each is limited to one carrier or benefits program within a state or narrower jurisdiction.

The trend in the rest of the world is for a fee schedule to become more widespread within a country, to cover more acts, and to be followed more strictly as a set of price ceilings. The trend in the United States is the reverse: Blue Shield has introduced "usual, customary and reasonable charge" payment methods; Medicare has adopted such a procedure, supposedly in fulfillment of statutory requirements to pay doctors the "reasonable costs" of care or "customary charges." The payment method is retrospective and is based on statistical inference: Charges are supposed to be calculated from percentiles of the average fees charged all patients in one or more previous years; the individual doctor is not required to conform to an average, but he (or his patient) is reimbursed at a rate within bounds fixed by his own customary pattern of bills and by the entire set of bills rendered by his colleagues. Each doctor could have a unique charging pattern. Some could charge customarily much more than their colleagues; the system of profiles is supposed to restrain only sudden increases of fees by individuals. One difficulty with the method is that it requires a complete data base for calculating community averages for each act and the individual doctor's profile of customary charges; the administrators of Medicare say they are blocked from learning the actual charges of the entire medical professional and of the individual practitioner for the bulk of their practices (*3*).

Limits on Charges

Sooner or later in every country, the fee schedules become the maximum allowable charges under national health insurance. If the system is direct payment of the doctor by the sick fund—as in West Germany, Holland, and much of Canada—the rate in the fee schedule is payment in full to the doctor. At times in the past in several countries—such as France before 1960—the patient paid the doctor whatever the latter requested, and the fee schedule stated the reimbursement by the sick fund to the patient. Usually after bitter fights, the sick funds and the government eventually convert the fee schedule into a system of allowable charges collected by doctors from insured patients. The sick fund reimburses the patient for all or most of each charge (*4*). (In only a few countries with national health insurance today—such as Belgium—are doctors free to charge whatever they like. In these cases, the fee schedule governs only reimbursement to the patient.)

In other reports from this project, I will describe various types of fee schedules abroad and how they are negotiated. Whether fees go up rapidly or slowly depends on how the negotiations are administered, as I will explain later in this paper.

Price Controls Without A Contract

If the medical association and sick funds fail to negotiate an agreement, the doctors might be able to charge what they like. The sick funds might then be pressed to pay far more than they want, or patients would have to pay considerable additional money out-of-pocket. The medical association might then have no incentive to negotiate an agreement.

Eventually, governments pass laws providing some control in the absence of a contract. The government agency that approves the agreements negotiated by the normal procedures is also given authority to fix fees for sick fund practice when no agreement exists. Usually, this is the last fee schedule that the parties agreed upon, with prices brought up to date, consistent with changes in the cost of living. This prospect gives the medical association an incentive to negotiate an agreement with the sick funds: Usually the terms are an improvement over an extension of the last contract; and, ideologically, the doctors prefer health insurance practice to be governed by a contract they negotiate rather than by a decree from a government agency.

Usually such arrangements are temporary. But occasionally the medical association and sick funds are deadlocked for long periods, and the government must issue decrees annually. For example, the government of the canton of Zurich in 1964 had to exercise its power under the new national health insurance law to impose a set of rules and a basic fee schedule (*Rahmentarif*). The medical society gambled on profiting from a deadlock: Direct payment of the doctors by sick funds would be replaced by a cash benefits system, whereby doctors charged patients and patients were reimbursed by the sick funds. The cantonal association of sick funds gambled that the government would apply the old tariff and would control fees strictly, and that is what happened.

The Zurich *Rahmentarif* was the document that had been in effect for several years under contracts. Each year the health office (*Gesundheitsdirektion*) of the cantonal government consulted with the cantonal association of sick funds and the cantonal medical society, examined the consumer price index, and announced the percentage increase in the level of all fees. In addition, the office occasionally amended the rules and the structure of the *Rahmentarif*. Governments exercise their power very cautiously, awarding only enough money to match the cost-of-living index and making few changes in the documents. The fee schedule in Zurich became steadily more obsolete, and finally both the sick funds and medical society had an incentive to regain control of the situation. A new fee schedule and contract is being negotiated at this time, after 12 years without a contract.

EFFECTS OF NEGOTIATING SYSTEMS ON THE RISE OF FEES

If the organization of a medical service includes a structure of negotiation between providers and consumers (or between providers and third-party payers), prices will be lower than in systems where the provider sets the rates (*5*). If no adversary confronts the medical profession and if a country lacks a method for bargaining over fees, payment per act will go up faster than the consumer price index. Individual doctors are free to increase fees more quickly than the rise in their costs, even though they imagine they merely are covering their costs in the same way as before. If medical fees are negotiated and the prices of other professional and nonprofessional services are not but are fixed by the provider, the prices of the other services will go up faster (*6*). As a general rule, doctors' fees have gone up faster in the United States than abroad, except during periods of a total wage freeze, because of the absence of national negotiations in America (*7*). If the United States is to control costs under national health insurance, it must organize negotiations between representatives of the medical profession and insurance carriers (*8*).

In contrast to American experience under Medicare and private practices, the fees actually charged under national health insurance abroad usually rise at about the same rate as the consumer price index. During periods of inflation, fees lag behind, although doctors' incomes often (not always) keep pace through rising utilization.

Indexation

One method of containing costs is tying the increase in fees to the consumer price index: If the index rises, so do fees, but no higher. Smaller countries often base wage awards in the public sector on indexing, since they wish to maintain stable relations among occupations and avoid inflation.

Different cantons in Switzerland demonstrate various methods of using the index. For example, if the national index of consumer prices has risen since the last award by a significant percentage—usually 10 percent—the representatives of the sick funds and medical associations in Bern meet to negotiate an increase. Once they automatically raised all fees by the same percentage, matching the rise in the index. Now they raise the medical performance (consultations and personal treatments) more than the technical acts (laboratory and radiology).

Other Swiss cantons tie the periodic awards more closely to the movements of the index. In the canton of Basel-City, the connection is so automatic that the medical association and the sick funds do not even meet to discuss the award, thereby avoiding the contentious confrontation that disturbs the parties everywhere else. For several years, whenever the index has increased 5 percent since the last award, the director of the cantonal health insurance office (*Kantonales Krankenversicherungsamt Basel-Stadt*), has ordered the sick funds to increase all payments by the same proportion.

The awards catch up with increases in the cost of living after a lapse of time. If prices are rising quickly and pay increases are made promptly, the awards contribute to the inflationary spiral. Therefore, governments usually try to limit the number of awards and to delay the dates. In order to combat inflation, Switzerland, in December 1972, conferred upon its Federal Ministry of Economics power to control wages and prices. Awards of higher fees must be approved—whether negotiated by the sick funds and doctors or whether announced by cantonal governments in the absence of a convention. Because the awards in all cantons usually do not exceed the rise in the national consumer price index, the price control office has never ordered a reduction. (It has cut several increases in industrial prices.) In order to restrict the rise in costs in Switzerland, however, it has ordered delays in the effective dates of several cantonal agreements until January or July.

Indexation clauses are supposed to prevent medical costs from rising faster than the general cost of living and to prevent deficits in the sick funds. But they can create deficits if the sick funds lack even this much money. In 1974, Switzerland was experiencing a recession that limited tax revenues of the national government; in referenda, the electorate defeated new taxes and approved guidelines ordering the government to economize. The national government, in 1975, reduced its subsidies to the sick funds by 10 percent. The sick funds raised their premiums and increased cost sharing by subscribers, but still they lacked enough money to cover both higher fees and all other costs. The funds appealed to the cantonal medical associations to suspend the index clauses, and Swiss Cantons had no or small increases in fees during 1976. (This experience illustrates how global budgeting controls are the most effective restraint on spending.)

Linking

In several countries, the salaries of employed doctors are linked to the wages of other groups. They all go up together in the same proportion, even though one salary is higher than another.

A few countries try to link increases in fees to the salary awards in the public or private sectors. For example, since 1965, the payment of general practitioners in the Netherlands has been taken out of dispute by making the average general practitioner's (GP's) net income comparable to that of a national civil servant of Grade 151. The capitation fee was increased greatly (*9*). Thereafter, each year the negotiating committee has distinguished between that part of the capitation fee to cover the costs of practice and that part to provide net income after costs. The latter increases automatically every year, after the secretariat of the GP's negotiating committee learns the size of the salary increase awarded by the Dutch government to civil servants of Grade 151. The costs of practice for the next year are supposed to be estimated objectively, and the two sides introduce much detailed paper about probable costs during the coming year of equipment, personnel, supplies, and services needed for a good general practice of a particular level of effort.

Dutch specialists' net honorarium—that is, personal income rather than the part of the fee covering practice costs—for many years was decided by negotiators in the light of pay trends of several occupations in the private economy. During the 1970s, trade unions became more militant, a new Cabinet encouraged the rise of lower incomes, and specialists' fees (if indexed any longer in connection with this range of occupations) would have risen quickly. General practitioners' annual increments had been tied since 1965 to the pay awards given Grade 151 civil servants. The sick funds and the government, in 1974, insisted that the specialists' honoraria thereafter be linked similarly.

The Dutch specialists' honoraria (that is, the part of fees not covering costs) hereafter increase automatically each year, by the same percentage as the average increase granted to Grades 152, 153, and 154, the highest ranks in the Dutch civil service. This is an indirect indexation to the consumer price index. The government (in particular, the Directorate General for Civil Service Staff Management of the Ministry of Internal Affairs) decides to raise all its employees each year, roughly in accordance with movements of private wages. But the Van den Uyl Cabinet, in 1974–75, raised the lower income groups more than the better paid, since it wished to reduce income differences in Holland. So, Grades 152, 153, and 154—and the specialists—do not rise as quickly as the consumer price index. They might do so if the next Cabinet follows different wage policies.

The Dutch payment system now includes retroactive awards: The civil service receives them and, therefore, both GPs and specialists get additional paychecks from the sick funds to cover higher payments for the bills they rendered earlier in the year. Therefore, the Dutch system provides no opportunities for fees to run ahead of inflation under national health insurance, but other devices prevent the annual increase in fees from running far behind (*10*). The linking system controls not all costs but only the part providing the doctors' personal incomes. Doctors are left considerable discretion in running up the costs of practice, although the detailed economic investigations of costs and the prospective negotiating system exercise some restraint.

Limiting Fees in Order to Control Total Costs and Doctors' Incomes

In most national health insurance systems, payment decisions revolve around the individual rate, such as the fee. For example, indexation usually increases every fee by the same proportion. The net incomes of the doctors can go up more than the proportion in the negotiated or automatic award if they increase their services. For example, incomes of German doctors seem to have risen very rapidly because of the additive effects of modest annual increases in fees and large increases in utilization (*11*).

When national health insurance is first introduced, doctors' incomes rise very rapidly, producing unexpected budgetary strains. The reasons are that all bills are now paid in full; the political compromises with doctors usually result in much higher fees; and utilization is somewhat higher (*12*).

Negotiators for sick funds and government dream of the day when they can detect sudden increases in utilization and incomes and when they can make their payment offers accordingly. But this requires full statistical information and rapid feedback. Only Canada has been able to supply negotiators with very recent data about utilization, doctors' incomes, and total costs. The information about utilization and costs is based on the machine-readable data files of bills; earnings of doctors are calculated from the income tax records of Revenue Canada (Taxation). The office of Medical Economics and Statistics, Health Programs Branch, Department of National Health and Welfare, supplies the tabulations to the provincial governments (which negotiate the fees on behalf of the sick funds) and to the provincial medical associations (*13*). If it appears that the total health spending has been rising rapidly and/or if doctors' net incomes after practice costs have been growing quickly, the negotiators for the government and sick funds offer no or very low increases in fees (*14*). During the early 1970s in Canada, these tactics proved very effective: unlike the experience of other countries, the proportion of gross national product (GNP) spent on health declined slightly (*15*).

Ideally, feedback about the state of the system should be immediate. But negotiators must work with data a few (usually two) years late since many steps must be followed. Before Health and Welfare Canada can supply tables about utilization and costs, the sick fund offices throughout each province must keypunch and merge all bills; data tapes must be prepared for each year; and (because Ottawa's tables compare the provinces and generalize about the entire country) nearly all provinces' tabulations and data tapes must be delivered. Before Health and Welfare Canada can supply tables about doctors' incomes, all tax returns for all Canadians must be keypunched and merged for that year; Revenue Canada must complete its higher-priority data management and tabulations; and Revenue Canada must run the special tables about doctors. The usual bureaucratic grumbling arises: the negotiators say that Health and Welfare Canada is too slow, while that office points to late deliveries by the provincial sick funds and by Revenue Canada. In addition, several negotiators for the medical associations suggest an ulterior reason why Health and Welfare Canada does not speed up: The most recent data, they say, would show that doctors' costs are now rising much faster than their incomes. Therefore, the Canadian Medical Association will soon institute its own regular national surveys of doctors' costs and incomes, so that it can place more recent figures on the table.

Planners in other countries are beginning to suggest methods of relating the negotiators' decisions to recent trends in the economy generally and in health services. For example, an economist who works on health insurance in the German national Ministry of Labor, Ulrich Geissler, suggests the following. Each year's increase in payments for medical services by sick funds will equal the last known annual increase in the country's GNP. If last year's GNP rose 10 percent, the expected payments for medical services for next year will rise 10 percent. Part of the 10 percent will be reserved for anticipated increases in services, and the rest will be paid to doctors in higher fees. If utilization increases more than expected, then the increase in fees will be less. During the first year of such a system, the total increase for medical payments might be 10 percent, the anticipated increase in services might be 6 percent, and fees would be increased 4 percent. If utilization runs ahead of plans, fees continue to be paid at the agreed rate, but the deficit is recouped by a saving next year; if services increase by 7 percent and not by 6 percent, the increase in fees for the next year is reduced by 1 percent (*16*).

The reasoning tries to prevent health expenditures from absorbing a steadily mounting proportion of GNP. It has been criticized on the grounds that utilization and doctors' pay are two separate questions that should not be linked. One should not become an incentive for reducing the other, one should not be penalized because the other has risen, since the increase might be justified (*17*).

Lump-Sum Methods

In order to limit the rise in costs, some planners are searching for possible ways of allocating fixed amounts of money, i.e., a "budget system" whereby all services of a particular class must be provided for a sum decided at the start of the year, instead of a "tariff system" whereby the sick funds must pay for every approved service at a designated rate. This method is common in national health services with doctors paid by flat-rate methods, such as salary or capitation (*18*).

Germany is the only country with national health insurance that has had a "budget" system or lump-sum method of paying for medical service. Until 1965 in each *Land* an association of insurance doctors (*Kassenärztliche Vereinigung*) met with the provincial associations of sick funds each year and agreed on a fixed payment for all physicians' ambulatory services (*Kopfpauschale*). The doctors' association administered the money: It received all bills and paid them according to a fee schedule. The fee schedule was a relative values scale that guided the distribution of money, if bills were few, doctors were paid more for each act, but if utilization rose, payment for each act was lower (*19*).

The *Kopfpauschale* system was criticized because it supposedly motivated each doctor to work rapidly. The larger the number of bills, the higher one's income. A doctor giving thorough care would be penalized, since everyone else worked faster to get a larger share of the lump sum. The system encouraged the unnecessary multiplication of acts and false billing (*20*).

As part of a general reform in 1965, the *Kopfpauschale* system was replaced by the common method of payment by the act (*Einzelleistungshonorierung*). A fee schedule with predictable rates was adopted. The sick funds agreed to pay every bill at the full rate. In return, it was hoped that doctors would work less hurriedly and that utilization would not increase so rapidly. But past habits had become ingrained: doctors continued to work long hours at a fast pace, services steadily rose, and the health insurance system experienced great increases in costs and in the incomes of doctors (*21*).

EFFECTS OF FLAT-RATE METHODS

Capitation

One might think that salaries or capitation can be controlled more easily than fee-for-service payments. British general practitioners often complain that they are squeezed and attribute their plight to the capitation method per se. But salary and capitation are not inherently slow to rise. If the sick funds or government wish to make great concessions to the general practitioners, they can increase capitation fees by large amounts. The annual increases in capitation fees in Holland have exceeded in proportion the annual increases in specialists' fees (*22*). A 22 percent increase occurred in 1967 when the sick funds and Cabinet accepted an arbitration award that thereafter the average general practitioner should earn the same net annual income as a Grade 151 civil servant (*23*).

Even though capitation fees went up faster than specialists' fees in Holland, the total costs for specialists' services have risen faster than the total costs of general practitioners' services (*24*). The reason is utilization: Higher total general practitioners' costs are determined by the increased number of Dutch citizens covered by national health insurance and rise gradually; high total specialists' costs are determined by the number of acts performed by doctors, can be controlled only with difficulty, and rise faster.

Salaries

A sudden increase in the salaries of German hospital doctors was an important factor in the general *Kosten-Explosion* in German health services during the 1970s. Between 1965 and 1971, hospital doctors' incomes below the rank of chief of service did not rise as fast as the incomes of doctors in private office practice. The latter were benefiting from the big windfalls following abandonment of the *Kopfpauschale* system. Traditionally, German hospital salaries had not been high, and working hours were long. Probably only the chiefs of service, because of their additional private practices, could keep pace with office doctors. Meanwhile, the pay of the German labor force was rising at a faster rate than salaries of hospital doctors. The last straw was the great improvement in pay and working hours of nurses.

The younger hospital doctors demonstrated throughout Germany in 1971 for better terms under the national contracts between provincial governments and employed doctors, the *Bundesangestellten-Tarifvertrag* (BAT) for doctors, pharmacists, veterinarians, and dentists. The protests and subsequent negotiations were led by the special association for salaried doctors, the *Verband der angestellten und beamteten Ärzte* (the *Marburger Bund*), and its parent trade union, the *Deutsche Angestellte Gewerkschaftsbund* (DAG). Because of the reputation of hospital doctors for working very long hours, they won public sympathy. In a moment of generosity, *Land* governments throughout Germany made concessions that saddled them with large permanent costs. The working week was set at 40 hours. For the extra work at night, on weekends, and on holidays and for being available while off duty—all obligations that had been part of normal working conditions earlier—the hospital doctors obtained extra payments that nearly doubled their basic salaries. In addition, they received other benefits, such as the vacations enjoyed by other German civil servants (*25*).

REFERRALS BY GENERAL PRACTITIONERS TO SPECIALISTS

It often is thought that some methods of paying general practitioners induce them to undertake much of the care themselves, while other techniques motivate them to refer patients to specialists and to institutions. Of course, referral is "good" if the GP is less qualified than the specialist and is "bad" if the GP can handle the case completely by himself. This requires study of the clinical facts in each case. Before reaching the point of judging whether a payment system with a higher referral rate is encouraging the right result, one must establish that it is associated with more referrals.

General Practitioners

Capitation often is thought to result in excessive referrals, whose unnecessary costs would offset any savings from a flat-rate payment method. The GP is supposed to do everything needed by the patients on his list. But he is paid anyway. He might economize on his time by sending a patient to an office specialist or to a hospital outpatient department. The entire system then experiences the opposite of economy: The specialist charges a fee and the hospital incurs additional costs, when the GP might have done the work without extra billing.

Such referral patterns may exist under certain circumstances in the Netherlands. The available research is scattered but suggestive, and a more careful and controlled examination would be worthwhile. A current econometric study of macrostatistical attributes of general practice in Dutch communities suggests that the busier GPs make more referrals, particularly if they wish to conserve their time for private patients. Therefore, suggest the authors, referrals can be reduced if the number of general practitioners is increased (thereby reducing the length of list) and if national health insurance becomes universal (thereby eliminating the private patients who pay GPs by fee-for-service) (*26*). A few studies of individual practices suggest that the busier GPs refer more often (*27*).

Would Dutch GPs refer less often if they were paid by fee-for-service? Perhaps they would, but would total costs then be higher, since the GPs rather than the specialists would collect the fees? Or, would total costs be lower, since GPs would use less expensive facilities than the specialists? Dutch policy makers are much concerned with building an optimum relationship between GPs and specialists, wherein referrals are made when necessary and desirable and are avoided when they are unnecessary and wasteful. A national debate is now being conducted over the future organization of medical practice, including the best ways of relating the "front rank" and "second rank" in care (*28*). An effective collaboration will be sought rather than the simple dichotomy between cost-generating referral and cost-saving nonreferral. In order to do so, some revisions may have to be made in the payment system in order to facilitate collaboration. For example, the GPs and specialists might have to be paid for telephone consultations, an idea not previously included in the *Tarieven* (*29*).

A common problem in countries with many GPs is how to motivate the patient to prefer the GP and not to think he is automatically better off with a specialist. (This ceases to be an issue in countries where no one is called a general practitioner and everyone claims to be a specialist, such as the United States. But it is a problem to be solved, if general practice is ever to be revived.) Referral to a specialist for the same work usually involves higher costs. The Dutch try to prevent a stampede of patients to specialists by requiring the latter to bill the sick funds on a "referral card" (*verwijskaart*) signed by the patient's regular GP. But, even so, patients often insist that they want to see a specialist for a condition that the GP can handle, and the GP may reluctantly fill out a referral card, certifying a medical indication that may not really exist (*30*).

In Germany and Switzerland, the general practitioner is paid by fee-for-service and may collect fees for any of the specialists' work. The financial incentive, therefore, is to do the work oneself, and not refer the patient to another doctor. But in practices with very rapid work, a doctor has an incentive to send a time-consuming patient elsewhere.

Restraint Through Billing Methods

Unlike Holland, Germany and Switzerland do not confine the first visit to the least expensive doctor, the GP. The patient may start with a specialist. Shopping around at the expense of the sick fund is limited by rationing the bills: The patient gets from the sick fund, at the start of a quarter, a "sickness ticket" (*Krankenschein*), which he gives to the doctor, who enters on it all treatments for the next 3 months, and then sends the paper to the sick fund for reimbursement. The patient cannot withdraw the *Krankenschein* from one doctor and give it to another, but the first doctor must send him with a special referral ticket (*Überweisungsschein*).

In the past, the system controlled excessive self-referral by the patients themselves. Instead of one *Krankenschein* per quarter during a personal visit to the insurance office, the German patient now gets in the mail a carnet with several. The patient could use the carnet to shop around, and the sick fund's computers would flag the case only much later; but in practice past habits keep the patient with the same doctor, at least until the end of the quarter.

Closed Panels

If payments of individual doctors and groups are organized so they are billed for the cost of referrals, they may reduce clinically necessary referrals as well as unnecessary ones. Closed panel groups existed in Ontario before Medicare and continued thereafter. The Ontario Health Insurance Plan (OHIP) pays lump sums to the groups, which distribute the money in their customary fashion among the physicians. All other doctors are paid by the act according to a fee schedule; they submit individual bills to OHIP. If a panel physician refers a patient to a doctor outside the group, the latter's fees are deducted from OHIP's periodic global payments to the group. Under the law, every subscriber has free choice of doctor and may go to any physician in or outside his group at any time; the cost of these self-referrals is deducted from OHIP's payments to the group. The groups suffer serious financial problems from this uncontrollable leakage and are believed to discourage outside referrals by their doctors (*31*). However, no interview surveys have been done asking doctors about their decisions.

A medical economist at the University of Toronto, Alan Wolfson, suggests an intermediate payment system so that neither the group nor the sick fund is entirely at risk. The group would have a certain quota of free referrals by the doctors themselves to others outside the panel. Therefore, groups in Ontario would not have the current disincentive to refer. Nor would they be able to shunt a large amount of their work elsewhere at the expense of the sick fund. Wolfson would place the group at risk for some self-referrals by patients as a form of quality control; for a few self-referrals elsewhere by each patient, the costs would be deducted from the sick fund's global payments to the group. If many patients went elsewhere, the group would have to become more attractive or would have to reorganize its membership.

TREATING THE PATIENT IN THE OFFICE OR IN THE HOSPITAL

Incentives to Hospitalize

All countries are worried about the rapid increase in the costs of hospitalization, and all search for methods of gaining some control over hospital costs. A common dilemma is that medical policy commits the government and sick funds to welcome every client with a possible need and then to provide him with all possible services until he recovers. The incentives and rewards favor expansion in the number of clients and increases in the quantity and complexity of services. Therefore, as policy makers now try to apply controls over hospitalization, they confront methods of paying doctors and hospitals under national health insurance that encourage more frequent, longer, and more expensive hospitalization, since these methods were written under the assumption that care in hospital wards or in hospital outpatient departments is good. While many other direct and drastic methods are now being debated (*32*), the particular payment methods that encourage hospitalization are also being questioned.

One example is paying the doctor more for inpatient rather than for outpatient treatment, on the debatable assumption that inpatient care is more time-consuming and burdensome for the doctor. It is believed widely that such discrepancies motivate doctors to hospitalize patients. Whether this really happens cannot be proved since very few studies have been made in any country of doctors' decisions to hospitalize, based on interviews of the doctors themselves.

If a Dutch specialist treats a patient outside the hospital and does not itemize acts—these are paid separately under a detailed fee schedule—he collects a case payment each month. He is supposed to give as much care as the patient needs throughout the month. A few of the case payments in guilders (f.) are:

Specialties	First Month	Each Successive Month
Urology	25.35	23.35
Gynecology	32.25	22.10
Internal medicine	40.45	19.45
Pediatrics	41.60	20.60
Cardiology	60.75	31.40

At the time of writing one guilder = $0.38. These were the rates during much of 1975, until the retroactive pay award made in October.

But if the patient is hospitalized, a pediatrician earns f.25.00 for each of the first 5 days and other doctors earn f.22.15. After the first 5 days, the daily payment is f.3.60. Within a few days, a specialist earns more from a hospitalized patient than he gets from an ambulatory patient for a full month of work. Even though the daily rate in the hospital soon drops, a convalescent patient can provide a steady income and cause the doctor little work—even though he costs the hospital quite a bit. This payment system is believed by some observers (*33*) to encourage excessive hospitalization and excessive lengths of stay in Holland, although other causes contribute as well. Alert administrators are supposed to discourage unnecessary utilization, but they are most alert to balancing their own budgets, and the finances of Dutch hospitals predispose them in favor of high admissions and prolonged stays (*34*). Therefore, a fiscal reform would require changing the payment for both the specialist and hospital. At present, this is being discussed. A stopgap solution has been to reduce the number of beds. Another partial solution, of course, is that modern patients are more assertive about going home.

Certain features of the French payment system also seem to encourage hospitalization rather than ambulatory treatment. These too are being re-thought. While harried administrators in every country imagine that they can never reduce any of the advantages of the medical profession, the French experience shows the contrary; once hospitalization in the specialists' own private clinics was encouraged by a fee schedule that gave them even higher fees than they earned in public hospitals, but that advantage was revoked during the reforms of the 1960s (*35*).

However, certain unintended incentives for hospitalization and for multiplication of work remain in France. For example, hospitals bill sick funds for the acts performed by their doctors and collect payments. Fees for work by full-time specialists go into the general hospital budget. (They have no incentive to manufacture a great deal of work: They earn their salaries anyway, the hospital will not earn a profit from their fees, but the *prix de journée* paid by the sick funds will be lower next year.) Fees for work by part-time specialists go into a special fund (*une masse hospitalière*). From the special fund, the hospital pays the salaries of the part-timers; the balance is earmarked for investment such as buying new equipment. The part-timers have a definite incentive to admit many patients and perform many acts; then they are sure to generate their own salary and not suffer a pay cut, any profit can be used to purchase new equipment, make their practices more interesting, and help develop skills they can use in private practice.

Discouraging Unnecessary Hospitalization

In theory, medical control in both French and Dutch national health insurance prevents unnecessary hospitalization. The decision is not supposed to be made by the attending specialist himself: He recommends that a patient be hospitalized and sends a recommendation to the control doctor employed by the sick fund; the control doctor orders the hospitalization. But the system never works this way. The attending specialist and patient always consider admission to be urgent; the control doctor is always busy with his many other administrative duties (particularly performing examinations and certifying patients to receive disability allowances); the patient is admitted before the control doctor sees the papers; he hesitates to disallow hospitalization and to tell the hospital to send the patient a bill; and therefore the control doctor's approval is automatic (*36*). In practice, control doctors shrink from challenging the judgment of specialists, particularly in teaching hospitals: The control doctor is often a former GP from a smaller community, specialists bridle if he overrules their clinical judgments, and in practice specialists always give plausible reasons for hospitalization. How to improve medical control is much discussed today in Europe.

The separation between office and hospital practices in several countries can provide incentives to refer fewer patients to hospitals. If the office doctor sends the patient to the hospital, he no longer earns fees from him, no longer controls treatment, and (because such countries usually have lengthy stays) does not recover him for a while. These are possible reasons why Germans have more office visits and less frequent hospitalization than Americans (*37*).

If privileges of hospital admission increase costs by making it easier for doctors to hospitalize a patient for procedures that otherwise might be done in the office or in a diagnostic center, admitting privileges might reduce costs by shortening duration of stay. Closed medical staffs in European hospitals usually try to keep a patient until his recovery is assured. American patients have much shorter stays because the physician continues to see the patient in his office, instead of referring him back to the primary doctor (*38*). Open medical staffs are unusual in the world, but some reformers are beginning to recommend them abroad because of (among other benefits) their possible benefits in shortening stays (*39*).

CONTROLS OVER EXCESSIVE UTILIZATION

A common belief is that payment by the act stimulates much work, some of it excessive. Many impressionistic reports and some systematic empirical research have been published in the United States (*40*), but few in Europe. However, many European medical administrators believe that fee for service has this effect. In particular, these might be acts that do not harm the patient, such as office consultations and tests (*41*). However, they can harm the budgets of the sick funds.

Financial Disincentives

The authors of certain European fee schedules often have thought about the first national health insurance scheme in Germany, which is said to suffer from chronic overbillings, and they have tried to insert disincentives into their fee schedules (*42*). For example, in both France and Holland, an expensive global act is expected to include several smaller procedures, the sick fund will not pay for many follow-up visits and examinations. For many acts, repeated treatments of the same patient are paid at progressively lower rates; this decline in fees discourages medically unnecessary multiplication of work (such as office consultations), but a doctor can still collect something if he deems the repeated work essential. My Dutch informants thought the variable pay rates were effective in discouraging unnecessary, repeated work, but no one knows for sure. An adequate evaluation would require sample surveys asking doctors about their decisions, a task rarely undertaken either in Europe or in the United States.

Controls Over Suspiciously Excessive Work

North America is ahead of Europe in utilization control. The United States invented computer technology and software for the massive task of information storage, retrieval, and tabulation, and Canada applied it to a national health insurance system. For many years, the sick funds and associations of insurance doctors in Germany used hand tabulations to compare community utilization norms and the work of individual doctors in order to detect venal overproducers. This was a remarkable achievement, but the statistical manipulations were few and inflexible, the work was expensive, and only limited numbers of bills could be processed. The computer makes it possible to handle a much larger volume of claims, keep the data base current with steady new input, divide the same data base into many different social and geographical groups through simple instructions, check unexpected results through quick and cheap reruns, compute many different types of profiles of individual doctors and individual patients, compare individual doctors' profiles with many different, larger, professional, statistical norms (including those not considered at the start of the research), and so on.

Data management and tabulation systems with these capabilities now are being set up throughout Europe, often taking advantage of American experience. Some are created by American consultants (such as the IBM system for the Schweizerische Kranken- und Unfallkasse Konkordia); others are created by native computing specialists who formerly worked in the United States (such as the LISZ system in Holland).

A good model is Canada, particularly the OHIP (*43*). A limitation is its provincial scope: The country has separate insurance administrations and different fee schedules for each province, and therefore each data base is provincial. However, within each province, the data base is nearly complete: Only one administration exists for official health insurance, and bills for almost all acts are processed through it. Individual bills are keypunched and entered into the system. Tabulations can easily be run about individual doctors to uncover deviations from their peer groups on total costs and on individual acts, and patterns of treatment can be constructed for individual cases. At times, the system is asked to list all doctors who far exceed their peers on total billing or on particular acts (such as office visits). Or, if rumors are heard about individual doctors, profiles of their practices are printed out, going back several years. OHIP then sends a report to the Medical Review Committee of the College of Physicians and Surgeons of Ontario, a committee with five practicing physicians, one layman, and a secretariat for investigation and reporting. At times the Committee inquires about types of problems or about individual doctors, and it asks OHIP for tabulations.

The Committee is a respected independent body that can speak with the support of both OHIP and the Ontario Medical Association. A weakness of medical control in most countries is its involvement in antagonisms between sick funds and medical associations: It may be performed entirely by control doctors of sick funds and be resisted by the medical association, which often results in the sick funds' inaction in order to buy peace, or it can be done entirely by the medical association upon request by the sick funds, which results in grumbling by the funds about "cover-ups." The Medical Review Committee of Ontario sends an investigator to interview a doctor and inspect his records about all his cases or about an individual patient. The full committee hears rebuttals by the doctor and makes recommendations, either to the financial officers of OHIP or (in the case of professional misconduct uncovered during the inquiry about billing) to the Complaints Committee of the College of Physicians and Surgeons. The Medical Review Committee often discovers ambiguities in the fee schedule and misunderstandings among doctors. One of its important functions is issuing clarifications of rules or recommending that the Committee on Tariff of the Ontario Medical Association reinterpret parts of the fee schedule.

Ultimately, a doctor can appeal to the courts. Therefore, medical control can be administered successfully only if the medical association and the courts agree that systematic excess of acts over the statistical average among one's peers constitutes a violation of the national health insurance law. Traditional medical control has allowed sanctions only if clinical malpractice can be proved in individual cases (*44*). When a regular pattern of waste can be penalized, money can be recovered from the doctors held in violation; others then bill with restraint. My respondents in Ontario believe that medical control is becoming steadily more effective, particularly restraints on excessive billing of "general assessments" (*45*), which already saves several million dollars a year, and is an important reason why Canadian medical costs rise more slowly than GNP.

Prerequisites for Effective Medical Control

If the system is to work properly, all parties must cooperate and information must be complete. The experience in France demonstrates the problems if the medical association is uncooperative and if billing practices are secretive. On both scores, American practice is more conducive to effective utilization controls. French medicine has a long tradition of autonomy, hostility toward lay scrutiny, and secrecy. The sick funds were considered adversaries; attempts by sick funds in the past to detect false billing by interviewing and examining insured patients touched off explosions (*46*). But the sick funds could not do without controls. By the 1960s, they needed to control excessive prescribing of drugs and excessive performance of other acts. In most countries, merely tabulating the information is an inherent right of the sick funds. But this is one of the aspects of French health insurance that had to be a joint decision with the doctors. The *Confédération des Syndicats Médicaux Français* and sick funds agreed to produce such tabulations comparing professional averages and the profiles of individual doctors. The National Convention of 1971 set up joint machinery for creating and examining tabulations.

The idea of singling out individual doctors is anathema to the *Ordre des Médecins* and to its ally, the *Fédération*; they (and other conservative medical groups) have attacked it steadily. The issue became a convenient club to belabor the *Confédération* in the rivalry among medical factions (*47*). Medical politics as well as computing difficulties have slowed the development of the statistical system, but it will be in full operation during the coming years, submitting its tabulations to the *Commissions médico sociales paritaires départementales*. Whether the *Commissions* will act against any physicians who are out of line from their fellows remains to be seen. The medical syndicates and sick funds are equally represented on the *Commissions* and must cooperate.

The French system of medical control demonstrates the disadvantages of any tradition of medical secrecy so strong that diagnoses and treatments are not entered on the bills going to sick funds. Rather, the doctor enters the "key letter," such as *C* for an office consultation for a GP, *CS* for an office consultation by a specialist, *V* for a home visit by a GP, *K* for an act listed in the *Nomenclature*, etc. Since the fees for *K* vary by the size of act, the doctor also enters the numerical coefficient. In late 1975, the basic value of *K* was 6.80 francs (F): since unilateral lymphography (for example) was valued *K*30, the physician entered *K*30 on the bill, he collected 30 × F6.80 = F184 from the patient, and the patient collected 75% × F184 + F138 from the sick fund. The words *"lymphographie unilatérale"* do not appear on the bill. Meanwhile, the sick funds are receiving millions of other bills, with the cryptic notations *C, V, K*10, *K*15, *K*30, *K*40, etc. No one knows which of the *K*30s refer to unilateral lymphographies. From the flow of bills, one cannot judge whether too many acts from the *Nomenclature* are being performed by certain doctors. Without a description of the act on the bill, a possible abuse is entering a higher coefficient in order to collect more money, e.g., entering *K*30 for acts costing less (*48*). From such abbreviated bills, one can create medical profiles of only those doctors who perform too many *C*s and *V*s (*49*). To learn how many acts are performed for each item in the *Nomenclature* requires a laborious national survey, the enumeration cannot be complete, and profiles useful for medical control cannot be created about individuals (*50*).

These problems do not exist in Holland and Canada. As in the United States, doctors enter the name of the treatment on the bill. Therefore, frequencies can be calculated for all acts (*51*).

Efficient systems of data management and medical control require unique identification (ID) numbers throughout all records. A weakness of the otherwise admirable control systems in several Canadian provinces is the absence of unique ID numbers for patients. (Such ID numbers exist for doctors and therefore profiles can easily be constructed for them.) While OHIP before Medicare had used the unique Social Insurance Number (SIN) for each subscriber and added new ones for persons who had not yet received SINs from the government, it adopted the numbers from the official hospitalization insurance program for its new Medicare accounts during the 1970s. This had the virtue of permitting unification of the hospitalization and Medicare accounts. The weakness was the absence of a unique number for each individual, to be entered by the subscriber or provider. Rather, the hospitalization number had one number for the subscriber and all his dependents. The claims processing clerks or the computer must try to estimate from the sex and birth date which member of the family was involved. Constructing profiles of individual patients is possible only after the trouble and expense of many corrections. It has not yet been possible to extend the control system to the detection of the patient who raises costs by shopping around among providers and pharmacies (*52*). OHIP may assign unique ID numbers for patients during the coming years.

If every patient has a unique ID number, it should be susceptible to clustering, so that all members of the same family can be combined when necessary. In nearly every country, this is simple because the subscriber's premiums cover all family members, and their bills (even if they bear unique patient ID numbers) refer to him. Switzerland is an exception: Every person is a separate premium-paying subscriber, including small children. Several Swiss sick funds add a second ID number for the family to avoid the extra expense of duplicate mailing and to learn whether certain utilization abuses (such as excessive drug purchases) are spread throughout the family.

As data based methods of control begin in Europe, Holland, Germany, and Switzerland share a problem with the United States: The sick funds under national health insurance and the private sick funds develop separate information systems and do not combine and compare their data, so that one cannot yet judge whether a particular doctor or many doctors give the same care to patients insured in different ways (*53*). Cooperation is now being discussed in Holland: If national health insurance is extended to everyone, of course, all bills will go through the same channels and the data base will cover the entire population, as in Canada.

Controlling the Average

The usual system of controlling overutilization and waste is to calculate the average for all doctors and identify the exceptional individuals who are far out of line. But if everyone is practicing expensive and wasteful medicine and if utilization rapidly rises, then the controls cannot limit the growing costs of the entire system.

Several types of medical work have shown great increases in aggregate costs, while passing muster according to control systems that were designed only to detect excessive billing by exceptional individuals. Examples are laboratory analysis and radiology. Originally, laboratory tests were treated as a medical procedure, like any other. A doctor worked on referral: He received tissues or liquids from another doctor or might even have taken them from the patient himself; he performed the tests personally or with the help of a technician. The pathologist was paid under a section of the fee schedule; its relative values reflected the time he was thought to spend on each test compared to the time other doctors spent on their acts elsewhere in the fee schedule.

The medical equipment industry has developed "autoanalyzer" machines that can perform many tests rapidly and in sequence and can then print out results. Their capacity is very large and they make possible economies of scale; they can process all the work of a region, making unnecessary many small laboratories close to the clinicians' offices. They can perform an entire series of tests as easily as one—in fact, programming some autoanalyzers to do only part of the sequence may be inefficient—and therefore they can produce more tests than the clinician originally wanted. A new habit is for the clinician to search through the stack of paper for the tests he requested and perhaps glance at the other results, to see if anything interesting resulted. These installations are small factories and can be managed at least as well by businessmen and chemists as by physicians.

The result has been a large, annual increase in bills for laboratory tests in Canada and parts of Europe. Sick funds cannot distinguish how many bills originated from tests done personally by doctors and how many were done at installations with automatic equipment manned by technicians and merely signed by the referring doctor or by a pathologist affiliated with the laboratory (*54*). Payment in full to a doctor conducting and evaluating a test personally is fair and reflects the intent of the fee schedule, but the sick funds must pay the same fees for all bills, and the automated laboratories gain large financial windfalls.

In several countries, it is the pathologists who benefit, particularly if the law allows them to manage and be responsible technically for several laboratories. The laboratories compete for referrals from clinicians, and one hears rumors about kickbacks. Elsewhere, as in Germany's *Apparategemeinschaft*, the referring clinicians are co-owners of the laboratory and are allowed to bill the sick funds themselves.

What to do about the laboratories baffles both sick funds and medical associations. The clinicians usually do not defend the prerogatives of laboratory medicine, since they believe that medical practice should be personal rather than automated treatment and because they fear that pathologists will take away too much of the funds earmarked for all doctors. In 1975, negotiators in Germany rewrote the fee schedules so that laboratory medicine receives much lower relative values and therefore gains money for individual acts at a slower rate than clinicians. Negotiators in several Swiss cantons now routinely raise the fees for laboratory tests and for radiology only half as much as the increase in the rest of the fee schedule. Sick funds in some countries may soon suggest one type of payment to a pathologist for a procedure that he performs personally and another (and lower) payment to a laboratory for any automated test.

Several Canadian sick funds are designing their own requisition forms by which clinicians order tests from the laboratory. The doctor would check only the tests he wants. Some laboratories are believed to supply doctors with deceptive requisition forms and the clinician in error checks boxes that unintentionally call for a full series that he does not need.

COST SHARING

Many Americans think that cost sharing might motivate patients to control excessive work and excessive billing by providers and to use medical services only when necessary. The idea is particularly attractive to economists, who search vainly for subtle financial incentives that can make regulations unnecessary.

As in other countries during periods before national health insurance or national health services, the United States has had extensive cost sharing by patients. Even when insured, the patient often is expected to pay the first dollars (deductible), pay a percentage of the doctor's or hospital's charge (coinsurance), and pay any fees in excess of the official rate. Medicare was supposed to eliminate free or charity medical care and also reduce elderly patients' out-of-pocket expenditures. But Medicare has institutionalized all forms of cost sharing, viz., the deductible, coinsurance, and possible charges over the prevailing fee.

Cost Sharing Abroad

The foreign experiences analogous to those of the United States consist almost entirely of coinsurance. Deductibles have never been common abroad and are now very rare.

Cost sharing usually is associated with cash-benefits systems of doctor payment, as in France and Sweden. The patient pays the doctor, receives a receipt, sends the receipt to the sick fund, and is repaid a large proportion of the fee. However, it is possible for the provider to submit two bills, one to the sick fund and the other to the patient, for the coinsurance amount. France does this for hospitalization, while following a straight cash-benefits system for the doctors' bills.

Countries with service-benefits schemes usually do not have cost sharing. Exceptions are the occasional money raising devices such as a very small payment for the official billing form that the patient gets from the sick funds and gives to the physician. They have been used in the past in German national health insurance and currently in many Swiss cantons and in Dutch dental insurance.

The trend in the world is toward less coinsurance. For example, the French sick funds now pay in full all doctors' fees for 25 illnesses and all hospital charges beyond the patient's payment of 300 francs (i.e., about $70) over 6 months. In addition, patients pleading financial hardship can persuade the sick fund to pay the doctor's full bill. (In an increasing number of cases in France, the doctor sends his bill to the sick fund and is paid directly, despite the traditional French medical ideologies anathematizing third-party payment.) (*55*)

Most service-benefits systems have extra charges for extra benefits (*56*). For example, Dutch national health insurance pays a fee to a midwife for a normal delivery. It pays in full for delivery by a GP only if the control doctor authorizes it on medical grounds or because a midwife is not available. The GP's normal fee for a delivery is set by the negotiations between the sick funds and LHV. If the patient without an authorization from the control doctor wishes to use a GP, the sick fund sends the GP the equivalent of the midwife's fee and the patient sends him the rest (*57*).

Switzerland is one of the few countries that has ever increased cost sharing. The reasons for cost sharing always have been mixed: financial need because of limited resources and a desire to deter minor use of medical services (*les cas bagatelles,* the small bills that mount up and also create much administrative work for the sick funds). Cost sharing was increased in 1975 because financial problems worsened, not because of a need to combat greater utilization. The Swiss electorate in December 1974 voted down referenda reorganizing national health insurance, voted down heavier taxes, and approved a referendum instructing the federal government to economize. A financial crisis ensued: the federal government had to reduce its subsidies to the sick funds, employers continued to be exempt from support of the funds, and premiums from subscribers were reaching their limits.

According to the new rules developed by the Swiss federal government and the federations of sick funds, the patient now pays 10 percent of all bills for ambulatory medical care. In addition, he pays a deductible of at least 30 francs every 3 months. In those cantons where premiums and fees vary according to the patient's income, the deductible is larger: 50 francs for the middle-income group and 80 francs for the richest. The coinsurance plus the deductible should not exceed certain limits in order to prevent financial hardship. For example, in the largest sick fund in Bern, the maximum for both for one person in one year is 300 francs for the lower income group, 500 francs for the middle group, and 800 francs for the highest group. Therefore, the distinction between coinsurance and deductible is blurred: a deductible is a minimum total that usually is equalled or exceeded by the accumulated coinsurance. Cost sharing does not apply to hospitalization, tuberculosis, or maternity. The deductible does not apply to children, but their bills are subject to coinsurance. Because of the complexity of this system—the sick funds must calculate when sufficient coinsurance has been accumulated to satisfy the deductible—the national association of German-speaking sick funds favors elimination of the deductible but retention of the coinsurance. Because of financial need, coinsurance cannot be eliminated (*58*).

In the United States, a patient sends bills to the sick fund, and they are successively disallowed for payment until his deductible is used up for that period. This experience probably puzzles and infuriates every patient except the handful of experts in insurance lore. Swiss cost sharing is handled very differently. If the patient has a service-benefits arrangement, the sick funds pay the providers in full and then bill the patient at the end of the quarter for the coinsurance, deductible, and small extra fees for the *Krankenscheine*. If the patient has a cash-benefits arrangement, he pays the doctor in full, he is reimbursed 90 percent of each bill, and the sick fund at the end of the quarter bills him, in addition, any remaining part of the deductible not reached by the coinsurance plus the small charges for the *Krankenscheine* (*59*).

At times, cost sharing is favored in a service-benefits scheme without it by factions that wish to control costs (*60*). They believe that cost sharing will deter overutilization and bring in extra cash. The question has been raised during recent discussions in Holland about extending national health insurance to the wealthier classes: They can afford payments and already have coinsurance in private health insurance. But when a population has paid-in-full scheme, it opposes cost sharing (*61*).

Effects

Does coinsurance reduce utilization and, if so, does it discourage medically necessary care more or less than unnecessary care? It is hard to isolate the effects of coinsurance from the effects of the cash benefits system that usually accompanies it: Perhaps the patient is deterred by the need to advance cash. Several studies of French patients during the 1950s—when personal incomes were moderate and coinsurance large—suggest that some persons were deterred from visiting doctors, particularly the more expensive specialists (*62*). No one has compared the effects of the two different types of cost sharing, i.e., the Swiss type, where the patient reimburses the sick funds weeks or months later; and the more common type, where the cost sharing is part of initial payment in full to the doctor.

Certain acts that are deemed essential—because they may have been prescribed by a referring physician—may have an inelastic demand (*63*). Little research has been done lately on the effects of coinsurance, but my informants suspect the French and Swiss people are now sufficiently affluent that it is less of a deterrent than before. If anyone is too poor, the sick funds will pay the doctor in full, or the doctor will waive the coinsurance part. Data from Saskatchewan suggest that, without such concessions, the requirement to pay the doctor at the time of service will deter some poor people (*64*).

What seems to disturb European populations is fluctuation in the size of the coinsurance. They want predictability and stability in return for their tax payments. During the 1950s, French doctors' fees were not controlled, doctors raised their charges faster than reimbursements to patients from sick funds, patients were forced to make steadily higher out-of-pocket payments, and the public became critical of the system (*65*). When the coinsurance was increased in the late 1960s for fiscal reasons, public satisfaction again dropped (*66*).

Do variations among patients' coinsurance cause differences in the behavior of doctors? Probably not, because doctors may have only vague ideas about the particular sick funds of their patients. All patients pay the doctors, it is the patients who have the relations with the sick funds, and any differences in coinsurance (which occur whenever certain sick funds have less money) are the patient's and not the doctor's concern (*67*).

Do cost sharing and the direct payment of the doctor produce a particular type of medical practice? French medical leaders believe they foster a close personal relationship between doctor and patient, which cannot be reproduced in any scheme with a third party. I suspect that another result is the generous prescribing that has struck many European visitors to France. If the French patient pays the doctor, he expects something tangible in return, and a *quid pro quo* is one or more prescriptions. This may be a reason why France has one of the highest drug bills in the world.

Refunds to the Subscriber

To combat the rapid rise in costs, German national health insurance introduced a refund (*Krankenscheinprämie*) in 1970. If a subscriber did not go to the doctor in a quarter, the sick fund sent him 10 marks. He could "earn"up to 30 marks during a year.

The *Krankenscheinprämie* at first caused a rescheduling rather than a significant reduction of utilization. If a patient wished to get his 10 marks, he scheduled all his visits in either the previous or the subsequent quarter. Therefore, the number of acts per *Krankenschein* increased, but the total volume for all of 1970 and 1971 rose at the same pace as before. Thirty marks proved too small a sum to motivate prolonged avoidance of a doctor. The administrative costs of inspecting records and mailing checks caused the sick funds to be worse off financially than before (*68*).

While one law was trying to discourage utilization, a new law was enacted encouraging it, a sequence not unknown in the United States as well. In 1971, the German government and sick funds added preventive examinations to the fee schedule. Patients were expected to visit the doctor regularly, even when they did not feel sick.

In 1974, the *Krankenscheinprämie* was dropped.

CONCLUSION

Limiting costs is not an end in itself. A more fundamental question is making sure that expenditures produce benefits and are not wasted. This requires certain perspectives still uncommon in medical care, such as skepticism about clinical procedures and programs, insistence that all must prove their value, and a willingness to jettison those that are ineffective and wasteful. This requires strength by government, doctors, and sick funds working together.

In addition, policy about medical costs requires a wider viewpoint. Specialists in health administration cannot think about their field alone, demanding that the rest of society constantly pay their bills. Rather, leaders in health must participate in the setting of priorities among all sectors in society.

Particular devices described in this paper can be helpful in effective management of money and services, such as

- Detailed schedules of procedures for use in billing and reporting.
- Adversarial negotiating procedures between providers and payers when pay rates are fixed.
- Complete and prompt flows of information about utilization and incomes.
- Collaborative machinery between providers and payers to regulate utilization and police abuse.
- Financial procedures that do not encourage the most expensive and wasteful methods. Adequate rewards for economical methods.

On the other hand, certain devices may not be very effective, because their effects are too small and other influences operate in the contrary way. An example is cost sharing by patients.

Improvement in the management and financing of health services requires new educational programs. Doctors must come out of their postgraduate education with an understanding of office practice, institutional management, and health insurance accounts. At present too many come out of the teaching hospital, bearing the habits of wasteful testing, elaborate equipment, and generous chemotherapy. (At present, control doctors in the sick funds of several countries, such as Switzerland, must undertake tactful guidance of young doctors as an unexpected form of post-postgraduate education.)

Regular communication about costs must become part of the work of sick funds and medical associations. Control doctors often are surprised at how many physicians fail to understand the fee schedules, do not realize the full consequences of what they prescribe (such as the full costs of thermal cures or a series of tests), and readily agree to patients' requests for expensive but not essential services. If doctors develop a sense that a sick fund is "theirs" as well as the "government's," they will learn to protect it.

REFERENCES AND NOTES

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State Bar et al., 421 U.S. 773 (1975). The federal government has filed an antitrust suit against anesthesiologists for such use of a minimum fee schedule: United States of America v. The American Society of Anesthesiologists, Inc., United States Court for the Southern District of New York, Civil No. 75-4640, September 22, 1975.

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4. The struggle in France is described in W.A. Glaser, *Paying the Doctor* (Baltimore: The Johns Hopkins Press, 1970), pp. 124-134 and 193-196.
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10. Trends in fees of specialists, general practitioners, and other health workers since 1958 appear in *Advies betreffende de premie voor de verplichte ziekenfondsverzekering* in 1968 (Amsterdam: Ziekenfondsraad, Publication No. 4, 1967), p. 11; and *Adviezen inzake premie verplichte ziekenfondsverzekering, premie bejaardenverzekering en premierductieregelingen bejaardenverzekering en vrijwillige ziekenfondsverzekering in 1975* (Amstelveen: Ziekenfondsraad, Publication No. 57, 1974), p. 14. Figures for 1975 are in press. No one has published a comparison of Dutch trends in fees and in living costs, like the research in several other countries. A consumer price index is published regularly by the *Centraal Bureau voor de Statistiek*, and therefore it is easy to make similar calculations.
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23. Report of the Van der Ven Committee, note 9.
24. R.M. Lapré, *Benadering van de ontwikkeling van de kosten van de Nederlandse gezondheidszorg* (Rijswijk: Centrale Raad voor de Volksgezondheid, Second edition, 1975), pp. 17–19.
25. The new terms of BAT are summarized in Guido Braun, *Zum Tarifrecht des Arztes* (Stuttgart: Schriftenreihe des Marburger Bundes, A.W. Gentner Verlag, 1973). The effects on medical costs from the large increases in numbers and pay of hospital doctors are reported in "Krankheitskosten: Die Bombe tickt," *Der Spiegel*, Volume 29, Number 21 (May 19, 1975), pp. 108–116.
26. F.F.H. Rutten et al., *Het ziekenhuis in de gezondheidszorg* (Leiden: H.E. Stenfert Kroese, 1975); and J. van der Gaag, "Do Different Financing Systems Cause Different Demands in the Health-Care Sector?" (Leiden: Economic Institute of Leiden University, 1974).
27. J.C. van Es, "Het verwijzen van ziekenfondspatiënten in 122 Nederlandse huisartspraktijken," *Huisarts en wetenschap*, Volume 13 (1970), p. 439; R.A. de Melker, "Een proefonderzoek naar de verwijsgewoonten van een groep huisartsen," *Huisarts en wetenschap* Volume 17 (1974), p. 293; and J.L.M. Raupp, *Over werkwijzen van huisartsen* (Helmond: Van Stiphout B.V., 1971), p. 70. In their texts, Van Es and de Melker say that larger practices do not refer more, but their tables show precisely this. Raupp does not find that the busier practices refer more patients for treatment; rather, the higher referral rates are for more diagnostic help.
28. The basic document is the *Structuurnota Gezondheidszorg*. An English translation exists: *Memorandum on the Structure of Health Care* (Leidschendam: Ministerie van Volksgezondheid en Milieuhygiëne, 1974).
29. Under fee-for-service, a doctor is motivated to refer much less, even when clinically desirable. The authors of the French *Nomenclature* have written several fees for office consultations and home visits that reward involving a colleague without making a permanent referral of the patient. They hope the rates are not so profitable as to encourage unnecessary and expensive multiple opinions (i.e., "ping-ponging," in the

American terminology). (See *Nomenclature*, Introduction, Article 18.) When the GP is paid by capitation and the specialist by fee-for-service—as in Holland—the problem is how to reward the GP for getting a second opinion but continuing to do the work himself.

30. For example, in order to appease a growing (but still small) trend in Holland toward hospital delivery by obstetricians in place of the traditional delivery by midwives or by GP's. R.M. Lapré, *Maternity Care* (Tilburg: Tilburg University Press, 1973), pp. 49-50 and 91-92.
31. A few of these groups existed before Medicare. Research showed they had few patient self-referrals and fewer official referrals to outside doctors, but that is not surprising, since internal referral is the raison d'etre of a panel. The groups had lower hospitalization than other forms of practice, possibly for the same reasons as those usually suggested in evaluations of closed panel groups. J.E.F. Hastings et al., "Prepaid Group Practice in Sault Ste. Marie, Ontario," *Medical Care*, Volume 11, Numbers 2 and 3 (March-April and May-June 1973), pp. 92-99 and 177-186. Similar patterns appear in an evaluation after the start of Medicare, but the design was defective and the study did not isolate the effects of financial incentives: *Effects of Delivery Systems and Health Care Resources on Medical Care Behavior* (the "Roth Report") (Toronto: School of Hygiene, University of Toronto, 1975), Parts III and IV.
32. Reversing their long traditions of encouraging many small local hospitals, Holland, Germany, and Canada now are reducing the number of beds.
33. Confirmed by some unpublished and restricted statistics that I have seen.
34. The daily rate paid by the sick funds for each insured inpatient (called *prix de journée* in much of Europe) is calculated in Holland so that the hospital will break even if 90 percent of its beds are occupied. As a result, hospital administrators try to keep at least 90 percent of their beds filled. Since Dutch patients now try to avoid staying in hospitals on weekends, the daily occupancy rate on weekdays must exceed 90 percent. Calculation of the daily rates in France and Germany is described in M. Gadreau, *La tarification hospitalière* (Dijon: Faculté de Science Economique et de Gestion, Université de Dijon, 1974), Part III; and S. Eichhorn, *Krankenhaus Betriebslehre: Theorie und Praxis des Krankenhausbetriebes* (Stuttgart: Verlag W. Kohlhammer, 1971), Volume II, pp. 119-138. In these countries—as in all others calculating the *prix de journée* in this fashion—the break-even point becomes the minimum occupancy maintained by the administrators. To maintain this rate, the average length of stay is prolonged, expensive, and impossible to reduce. A solution might be to vary the *prix de journée* by stage of hospitalization, such as the variations in payments to Dutch specialists. Such formulae are now being worked out by the Forschungsinstitüt für Einkommenspolitik und Soziale Sicherung, University of Köln.
35. W.A. Glaser, *Paying the Doctor* (Baltimore: The Johns Hopkins Press, 1970), p. 191.
36. A description of a Dutch control doctor's work schedule is A.M.F.B. Crousen, *Analyse van het werk van een controlerend geneeskundige voor de ziektewet* (Assen: Van Gorcum & Comp., 1968). A textbook about the control doctor's duties in Holland is J.A. van der Hoeven, *De controlerend Geneesheer* (Leiden: Uitgeverij L. Stafleu, 1960). The work of the control doctor in Germany is described in a thesis by E. Simon (Strasbourg: Faculté de Médecine, 1971).
37. Some comparative statistics appear in R.K. Schicke, *Arzt und Gesundheitsversorgung im gesellschaftlichen Sicherungssystem* (Freiburg im Breisgau: Verlag Rombach, 1971), p. 185.
38. Comparisons of Sweden and the United States in R. Andersen et al., *Medical Care Use in Sweden and the United States* (Chicago: Center for Health Administration Studies, University of Chicago, 1970), pp. 13-14 and 21-22.
39. For example, Hartmannbund, *Patient und Belegarzt* (Mainz: Verlag Kirchheim, 1974); and Wirtschafts- und Sozialwissenschaftliches Institut des Deutschen Gewerkschaftsbundes, *Integrierte medizinische Versorgung* (Köln: Bund-Verlag, 1975), esp. pp. 99-106.
40. Many are cited in *Cost and Quality of Health Care: Unnecessary Surgery—Report by the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce, House of Representatives, Ninety-Fourth Congress, Second Session* (Washington: U.S. Government Printing Office, 1976). See also R.P. Bolande,

"Ritualistic Surgery—Circumcision and Tonsillectomy," *New England Journal of Medicine*, Volume 280 (March 13, 1969), pp. 591–596.

41. The speculations are discussed at length in W.A. Glaser, *Paying the Doctor*, pp. 139–147 and 190–191.
42. I have already described several techniques in *Paying the Doctor*, pp. 145–149 and 190, and therefore I need not repeat the details here.
43. OHIP will soon publish a manual describing the data system and its use for medical control.
44. In a few countries, such as West Germany, the obligation of the doctor to treat health insurance patients "economically" is an explicit part of the statute. However, in other countries, the courts must decide whether the health insurance and medical practice laws permit financial sanctions upon the doctor for harming the sick funds with venal (or even unintentional) multiplication of acts that do not harm the patient. Such a judicial interpretation in Switzerland is Eidgenössische Versicherungsgericht (EVG), Urteil von 31 Dezember 1969 in Sa. Dr. Med. X, *RSKV. Krankenversicherung*, Heft 3, June 1970.
45. Ontario has three grades of office visit, depending on amounts of work and time: the "general assessment," the "specific assessment," and the "minor assessment." The monetary level for all three and relative values among them vary by specialty. The general assessment is supposed to be billed only occasionally, for the most complex and time-consuming examinations. The most common problem of medical control in Ontario is excessive billing of general assessments. When OHIP granted the medical profession only limited increases in fees during the 1970s, its statistics suggested that many doctors might have tried to increase their incomes by billing as general assessments work that previously would have been billed only as specific and minor assessments. Therefore, the control system has been directed at high billing of general assessments. It is easy to locate those doctors whose numbers of general assessments and other acts exceed the length of a plausible work day, since the data system includes every doctor's bills for every date. It is easy to see whether a doctor has unexplained increases in frequencies of general assessments during the 1970s, with commensurate decreases in specific and minor assessments.
46. B.N. Armstrong, *The Health Insurance Doctor: His Role in Great Britain, Denmark, and France*. Princeton: Princeton University Press, 1939, pp. 217–219.
47. The *Confédération's* description of the profile system and defense of its own role appears in several places, such as J. Monier, "Les profils," *Le médecin de France*, Number 294 (December 1970), pp. 3–4.
48. One of the few studies of the accuracy of billing was performed on the bills submitted by hospital clerks, on behalf of the full-time salaried surgeons. The surgeons were not billing on their own behalf and would not keep the money. The clerks should have been biased to bill more, in order to earn more money for the hospital. Of 40 bills, 37 were inaccurate—i.e., the coefficient of *K* did not correspond to the act's rating in the *Nomenclature*. Thirty bills asked for too little money. M. Huguier, "La facturation des 'K' dans un service de chirurgie à l'hôpital," *Le concours médical*, Number 97, Number 2 (January 11, 1975), pp. 252–253. In contrast, the American doctor enters the name of the treatment on his bill, a clerk in the sick fund adds the code number of the act, and the computer calculates the payment.
49. Examples of publications reporting aggregate numbers of acts in *C*, *V*, *K*, etc. and making inferences about trends are *Prestations . . . . Statistiques détaillées année 1970* (Paris: Caisse Nationale de l'Assurance Maladie des Travailleurs Salariés, 1975); and many reports of the Centre de Recherches et de Documentation sur la Consommation (CREDOC).
50. For example in *Journée nationale du K* and *Une journée de chirurgie en France* (both Paris: Caisse Nationale d'Assurance Maladie des Travailleurs Salariés, 1975). This massive effort was limited to hospital records and did not cover private offices and health centers.
51. The first tabulations from the new Dutch information system under national health insurance are reported in *Jaarboek LISZ: Landelijk Informatie Systeem Ziekenfondsen* (Utrecht: Gemeenschappelijk Overleg van Ziekenfondsorganisaties, editions of 1974 and 1975).

52. On the difficulty of merging data files for evaluating medical services in Ontario, see the Roth Report, *op. cit.* (note 31, supra), pp. 35–38. Canadian governments have been in no hurry to give their populations unique ID numbers because of widespread fears about police surveillance and invasion of privacy. Some doctors believe there are political reasons in health insurance as well: the medical profession is fair game for utilization control, but the sick funds may not be eager to restrict abuse by subscribers.
53. That significant differences exist is suggested by tabulations from the new information system for Dutch hospitals. It can compare the records of patients covered by national health insurance and by private insurance, as in O. Fokkens, "Het ziekenhuisbeddengebruik door fondsverzekerden en particulieren," *Medisch Contact,* Volume 30 (1975), pp. 173–176.
54. Because the site and nature of the work cannot be reliably inferred from the bills submitted to sick funds, no one has yet been able to compare productivity, costs, and profits in the automated urban laboratories and elsewhere. An able study of the rapidly growing productivity with such equipment in hospital laboratories is T. de Vries, *Het klinisch-chemisch laboratorium in economisch perspectief* (Leiden: H.E. Stenfert Kroese B.V., 1974). On page 43, de Vries describes the rapid annual increases in productivity (between 10 and 20 percent annually) in laboratory work in Holland, Great Britain, West Germany, France, Switzerland, Sweden, and Denmark. Other medical work shows hardly any annual growth in productivity. De Vries suggests taking advantage of the situation—i.e., the many laboratories in hospitals and in independent practice would be replaced by a few large and centralized units, able to make full use of economies of scale and not motivated to manufacture unnecessary work. The head need not be paid on a traditional fee-for-service basis but could be paid like any manager of a large organization. However, if fee-for-service is retained, in accordance with Dutch customs, it can be designed differently for laboratory work. Part of the doctor's fee would be variable, depending on the efficiency of the laboratory. The head would not pocket all the savings, but some would be passed on to patients and sick funds. *Ibid.,* Chs. 6–8.
55. Proportions of acts insured by CNAMTS with and without coinsurance are reported in *Prestations . . . Statistiques Detaillées Année 1970* (Paris: Caisse Nationale de l'Assurance Maladie des Travailleurs Salariés, 1975). Frequencies of the 25 illnesses in the records of CNAMT are listed in T. Zakia, "Enquêtes statistiques concernant les maladies donnant lieu à l'exonération du ticket modérateur . . . ," *Revue médicale de l'assurance maladie,* 1974, Number 2, pp. 18–24.
56. The Dutch charges are summarized in L.V. Ledeboer, *Heden en verleden* (Leidschendam: Ministerie van Volksgezondheid en Milieuhygiëne, 1973), pp. 30–75. Extra benefits by German and Swiss sick funds, such as dentures and thermal cures, also require cost-sharing.
57. R.M. Lapré, *Maternity Care* (Tilburg: Tilburg University Press, 1973), p. 22.
58. The history of cost-sharing in Switzerland is summarized in *Message du Conseil fédéral à l'assemblée fédérale à l'appui d'un projet de loi modifiant le titre premier de la loi sur l'assurance en cas de maladie et d'accidents,* June 5, 1961, Number 8251, pp. 37–39. The recent history of the deductible and the German-speaking sick funds' criticisms are summarized in "10 Jahre Francise," *Scheweizerische Krankenkassen-Zeitung,* Volume 68, Number 4 (February 16, 1976), pp. 44–45.
59. Cost-sharing (i.e., the coinsurance, deductible, and certain other charges) are 5.7 percent of the total incomes of all Swiss sick funds, according to *Statistik 1974 Statistique* (Bern: Bundesamt für Sozialversicherung, 1975), Table 17. There is additional cost-sharing paid directly to the doctors under cash benefit arrangements.
60. For example, recently in Germany: by a committee advising the Ministry of Finance, "Zur Lage und Entwicklung der Staatsfinanzen in der Bundesrepublik Deutschland: Wissenschaftliche Beirats beim Bundesministerium der Staatsfinanzen . . . ," *Bulletin* (Presse- und informationsamt der Bundesregierung), Number 103, August 16, 1975), p. 1012; by the Free Democratic Party, in *Der Spiegel,* May 26, 1976, p. 127. The proposal to revise Dutch national health insurance by the private insurance industry, in *Zeven pijlers voor een nieuwe structuur van de gezondheidszorg* (The Hague: privately printed, 1971), pp. 7, 11–12, 19, 36–37, and 59–60. A proposal relating cost-sharing to both utilization and personal income, and collecting the payment along with the

income tax, in *Issues and Alternatives 1976—Health* (Toronto: Ontario Economic Council, 1976), pp. 15 and 44–49.

61. The controversy in Germany in the early 1960s and the setback to the otherwise powerful Adenauer government is described in W. Safran, *Veto-Group Politics* (San Francisco: Chandler Publishing Company, 1967). During a national debate over the idea during the 1960s, 52 percent of the Dutch population opposed the idea of 10 percent coinsurance to alleviate strains on the sick funds, and they preferred higher premiums instead. Attwood Statistics, Enquete 60.06.77, conducted in 1966, question 18.
62. The surveys are summarized and cited in W.A. Glaser, *Paying the Doctor* (Baltimore: The Johns Hopkins Press, 1970), pp. 181–183.
63. A sudden and temporary increase in coinsurance in radiology in 1959 seemed to have little effect on the long-term trend in utilization. S. Sandier, "L'influence des fecteurs économiques sur la consommation médicale," *Consommation*, Volume 13, Number 2 (April–June 1966), pp. 85–87.
64. The frequently cited R.G. Beck, "The Effects of Co-Payment on the Poor," *Journal of Human Resources*, Volume IX, Number 1 (Winter 1974), pp. 129–141. I am surprised that cost-sharing in Saskatchewan was not even more deterrent among the poor. The demand for medical care must be very strong indeed. Waiver of cost-sharing for the poor in France assumes that the deterrence is very strong.
65. J-D. Reynaud and A. Catrice-Lorey, *Les Assurés et la securité sociale* (Paris: Institut des sciences sociales du travail, 1959), pp. 13–20.
66. National poll by the *Institut Français d'Opinion Publique* in the newspaper *France-Soir*, March 20, 1970. In case of future budgetary problems, the respondents favored increasing premiums rather than increasing coinsurance.
67. Shifts in the finances of French sick funds and in coinsurance are described in J. Brunet-Jailly, "La sécurité sociale dans la vie de la nation: Un point de vue économique," *Revue française des affaires sociales*, Number 2, June 1971, pp. 269–280.
68. Bundsminister für Arbeit und Sozialordnung, *Berichte der Bundesregierung an den Bundesrat über Erfahrungen mit dem neugefassten* § *188 der Reichsversicherungsordnung (Zahlung einer Prämie für nicht in Anspruch genommene ärztliche Behandlung und Krankenhauspflege—Krankenscheinprämie* (Bonn: Bundesrat, Drucksache 98/72, March 16, 1972), pp. 5–29.

18

REIMBURSEMENT FOR AMBULATORY PHYSICIAN SERVICES IN THE FEDERAL REPUBLIC OF GERMANY[1]

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INTRODUCTION

Virtually the entire population of the Federal Republic of Germany is covered by comprehensive health insurance for ambulatory medical care, inpatient medical care, dental services, and the costs of drugs and medical supplies. Roughly 90 percent of the population is covered under the so-called *Gesetzliche Krankenversicherung* (loosely translated, legally mandated sickness insurance). About 7 percent is covered by private health insurance carriers. Predominant among the 7 percent are persons with high incomes and civil servants whose health care expenditures are subsidized heavily out of public funds. As a rule, insured patients do not carry any coinsurance, deductible, or copayment for insured services and supplies, the exception being a very modest fee paid for prescription drugs (a fee held to a maximum of DM2.50 or about $1.00).[2]

The *Gesetzliche Krankenversicherung* is a network of about 1,500 legally and fiscally autonomous *Krankenkassen* (sickness funds), organized by region, trade, large industrial enterprises, or other criteria. Fiscal resources are derived from payroll taxes from working persons (and their families) and from pension funds for retired persons. The funds are disbursed to a great variety of health care providers, the most important of which are hospitals, physicians, and pharmacists.

The sickness funds reimburse hospitals for operating costs only. Payment is made on a predetermined per diem that is negotiated between the sickness funds and the hospitals, and subject to approval by a public authority. Funds for construction and long-lasting equipment are provided by state and federal governments according to criteria that are supposed to reflect areawide master plans.

The sickness funds pay pharmacists for drugs and supplies furnished to patients against prescriptions obtained from ambulatory-care

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[2] A more detailed description of the West German health system can be found in (*1*).

physicians. Payment is at so-called "market prices." The latter are the sum of wholesale prices paid by pharmacists to the producers of pharmaceuticals or to wholesalers, plus a mark-up (*Handelsspanne*) fixed by law and not subject to any influence by the sickness funds. Precisely what countervailing power makes this retail price a "market price" is an intriguing question, but one that is not within the scope of this paper.

Here I shall focus exclusively on the reimbursement of physicians—specifically those in private ambulatory practice. The salient features of the present reimbursement system and its historical evolution are sketched in the next section. Thereafter, I review briefly alternative proposals to control reimbursement of physicians in West Germany. It is worth mentioning at the outset that, in a comment held to a few pages, only general tendencies can be described and that exceptions to the general case cannot always be acknowledged.

REIMBURSEMENT OF PHYSICIANS IN PRIVATE MEDICAL PRACTICE: PAST AND PRESENT METHODS

There are currently about 115,000 physicians in West Germany, of whom all but 6 percent are professionally active. Roughly 54,000 physicians are active exclusively in private, ambulatory practice. About 50,000 physicians are active exclusively in hospitals. The remainder, about 10,000, work full time in administrative positions or research.

The division between inpatient and ambulatory patient care is strictly and jealously guarded. In contrast to their North American colleagues, West German physicians in private ambulatory practice do not enjoy hospital privileges. Although it is they who authorize and arrange admission of patients to hospitals, they lose medical and financial control over their patients throughout the latters' hospital stays.

Hospital physicians are salaried employees of the hospital, and are paid according to an official tariff. In general, only the chiefs of staff enjoy the privilege of treating private patients on hospital premises, on a fee-for-service basis. In contrast to hospitals on the North American continent, West German hospitals do not normally render patient care on an outpatient basis. Such forays into the domain of ambulatory care would be resisted strongly by private medical practitioners, who enjoy a complete and legally established monopoly over the provision of ambulatory medical care.

The method of reimbursing physicians under the German health insurance system has undergone a variety of changes during its life. From its inception in 1883 to the early 1930s, the sickness funds negotiated contracts privately with individual practitioners. During that phase, the sickness funds enjoyed considerable market power vis-a-vis the physicians. That power included the determination of the number of physicians admitted to practice under the system and, of course, the level and mode of reimbursement.

In 1931, a legal basis was laid for collective contracts between the sickness funds and newly created professional associations of physicians practicing under the health insurance system.

The associations of physicians—subsequently endowed with the status of a publicly chartered body—were organized on a *Land* (i.e., state) basis, but eventually formed a federal association as well. The associations are now known as the *Kassenaerztlichen Vereinigungen*. Under the system established in 1931, the sickness funds paid the physicians' associations—the *Kassenaerztlichen Vereinigungen*—an agreed-upon sum per insured member. In return for this prepaid capitation, the associations agreed to have their members render all necessary medical services to the insured. Failure to reach agreement on the capitation payment invoked external arbitration.

The physicians' associations, in turn, disbursed the capitation payments to their members on a basis agreed upon with the membership on the one hand and the sickness funds on the other. Through most of the 1930s, 1940s and 1950s, individual physicians also were reimbursed on a capitation basis (although alternative methods were permissible). Payment from the association was triggered by submission of a sickness voucher, of which each insured person was issued four per year. Once a patient had surrendered his or her voucher to a physician, (s)he was expected to remain that physician's patient for at least that quarter, and the physician was obliged to render that patient all necessary care throughout the quarter. If, in a given quarter, an insured person did not see his or her family physician, the latter was, of course, not in a position to collect any capitation payment for that person.

The medical profession did not like the capitation method and, throughout the postwar years, proposed a shift toward fee-for-service reimbursement. Instrumental in achieving that shift was the profession's contractual relationship with a particular type of sickness fund—the so-called *Ersatzkassen* (literally translated, substitute funds). The latter, although an integral part of the West German health insurance system, are not strictly covered by the early statutes [*Reichsversicherungsverordnung* (RVO)]still governing the legally mandated insurance system, albeit in amended form. They cater primarily to white-collar workers eclipsed by the mandated system, and to the voluntarily insured persons who have a right to obtain coverage under the insurance system but are not legally mandated to do so. In 1974, there were 15 such *Ersatzkassen* (out of a total of 1,518 sickness funds), accounting for slightly over 25 percent of the insured membership under the entire system.

In competition with the regular sickness funds (so-called RVO funds) for enrollment of the voluntarily insured, the *Ersatzkassen* promise prospective members superior benefits, including preferred treatment by physicians (*2*). To earn the goodwill of physicians, these funds have traditionally offered them a relatively more generous reimbursement and were, not surprisingly, the first to agree to the physicians' demand for fee-for-service reimbursement. It is alleged that the *Ersatzkassen* can offer superior benefits at reasonable premiums because of a favorable selection of risks.

To meet the competition from the *Ersatzkassen*, the RVO funds gradually consented to a new reimbursement system under which the funds continued to pay the physicians' associations annually negotiated lump sums, but agreed to a fee-for-service disbursement of these lump sums to individual members of the associations. In effect, the reimbursement system came to resemble the American concept of a medical foundation. One characteristic of such a system is that the providers of health care assume the risk of sudden increases in demand. Under the West German system, this risk took the form of proportionately lower fees for given items of service. Furthermore, since the system placed the physicians' associations in the position of having to preside over a massive, annual, zero-sum game, it was natural for these associations to assume certain policing powers over their members. Thus it was not uncommon that physicians with much-above-average rates of output found their fees for individual items reduced relative to average fee levels paid other members.

During the 1960s and early 1970s, yet another shift occurred in the reimbursement system: An increasing number of sickness funds abandoned the method of lump-sum capitation payments to the associations and adopted instead a conventional fee-for-service system, a system long favored by German physicians. Their professional organizations had fought for it tenaciously throughout the postwar years. A shift to full-fledged fee-for-service reimbursement had, in fact, been contemplated in a Reform of the Health Insurance Laws proposed by the federal government in the late 1950s. Although the proposed reform ultimately was shelved because of impending elections, it may have served to speed a secular shift to conventional fee-for-service reimbursement. Details about this shift, unfortunately, are not readily available in the published literature. Indeed, it is remarkable that as late as 1974 the Federal Ministry of Labor still described the reimbursement system as it existed in the early 1960s, when in fact the switch to full-fledged fee-for-service reimbursement must by then have been all but completed (*3*).

For reasons that probably have more to do with politics than with administrative efficiency, the *Kassenaerztlichen Vereinigungen* continue to act as fiscal intermediaries between sickness funds and physicians under the new reimbursement system. The main difference between the old and the new system appears to be that the total transfer from the sickness funds to the physicians' associations no longer is negotiated and known in advance; the associations bill the funds, ex post, for the actual payments they make to their physician members. The fee schedules underlying this payment mechanism are negotiated annually between regional (usually statewide) associations of the sickness funds and the corresponding physicians' associations. Although these negotiations take place on a regional basis, they are influenced strongly by two instruments established through negotiations between the federal bodies of physicians' associations and sickness funds. The first of these is the so-called *Gebuehrenordnung fuer Aerzte* (fee schedules for physicians) established in 1965. This fee schedule serves as a common departure for all regional schedules. Each year, the federal association of sickness funds and the federal association of state-physicians' associations negotiate percentage increases in the 1965 fee schedule to establish the so-called *Bundesmantelvertrag* (federal agreement). The federal agreement is intended as a guideline for the regional negotiations. Although they are not binding on the regions, they nevertheless serve as a strong unifying force. Occasionally, the federal agreement also includes changes in the relative-value scales assigned particular procedures. In late 1975, for example, it was agreed to reduce the fees for diagnostic and laboratory procedures by an average of 24 percent and to raise fees for a number of physician-time-intensive procedures by as much as 45 percent.

The shift to full-fledged fee-for-service reimbursement represents a remarkable victory for West German physicians. Under the old system, the lump-sum transfer payable by the sickness funds to the physicians' associations was known at the beginning of the fiscal period. Given the number of physicians represented by the associations, the average annual income per physician was known and gained high visibility. By contrast, the current reimbursement system is open-ended, like the Canadian system. In contrast to the latter, however, the reimbursement of physicians in West Germany is not administered by a public agency under fee schedules negotiated with the public sector. The public sector has control over fee schedules only indirectly and, by all appearances, seems reluctant to exercise whatever potential control it might have. Furthermore, the administrative apparatus accompanying the reimbursement of physicians makes it difficult to analyze their behavior because the pertinent microeconomic data remain the physicians' associations. Although physicians' practices are not quite as hidden behind codes as they are in France, they nevertheless cannot match the visibility enjoyed by the administrators of the Canadian health insurance programs. Analysis of West German medical practice is difficult and, not surprisingly, very limited at this time.

THE INCOME OF WEST GERMAN PHYSICIANS UNDER FEE-FOR-SERVICE REIMBURSEMENT

As may be inferred from Table 1, West German physicians appear to have fared rather well under the shift toward fee-for-service reimbursement. It is estimated that the typical practitioner receives between 15 and 20 percent of his gross income from private patients at fees much in excess of those paid under the health insurance system. Total average gross income in 1974 may therefore have been as high as DM250,000. Preliminary and unpublished data for 1975 suggest an increase in this figure to about DM270,000. Following the widely used rule of thumb that about one-third of a West German physician's gross income is absorbed by practice expenses and another third by income taxes, the average *after-tax* income of West German physicians in private practice will be around DM90,000, or about $36,000 at an exchange rate of DM2.50 per U.S. dollar.

Inflation in fee schedules accounts for only a part of the rather rapid growth in physicians' incomes during the period between 1965 and 1974. It has been estimated, for example, that the average annual increase in fees during the period has been only about 3.8 percent, less than the annual increase in the general price level (*5*). The bulk of the increase appears to have come from increases in the number of services rendered per physician. That growth, in turn, appears to reflect systematic shifts in the mix of services rendered, as shown in Table 2.

Table 2 indicates a pronounced shift in the physician's output mix away from services that are physician-time-intensive toward technical services produced by ancillary personnel. This shift toward laboratory and diagnostic procedures has occurred at an astounding rate, as more and more physicians in private practice began to furnish their offices

TABLE 1

AVERAGE GROSS REVENUE PER PHYSICIAN RECEIVED FROM SICKNESS FUNDS, 1950-74

Year	Gross revenue from funds per physician, DM	Gross revenue from sickness funds per physician divided by gross national product per capita	Gross revenues from funds earned by all physicians as a percent of gross national product
1950	14,700	7.0	0.46
1960	44,469	8.1	0.63
1965	72,995	9.2	0.70
1970	122,204	10.8	0.80
1974	199,623[a]	12.4	0.97

[a] Estimated

SOURCE: (*4*:718)

TABLE 2

MIX OF SERVICES REIMBURSED PER "CASE"[a]
LOCAL SICKNESS FUNDS—1965-74

	4th quarter 1965		4th quarter 1974		% change 1965-74
Service category	DM	%	DM	%	
Consultations	7.70	31.2	7.31	20.0	-5.1
Visits	2.06	8.3	1.55	4.2	-24.8
Minor medical procedures	7.53	30.5	10.42	28.5	+38.5
Medical supplies	1.33	5.4	1.69	4.6	+27.1
Diagnostic procedures	2.56	10.4	9.13	25.0	+256.6
X-ray procedures	2.45	9.9	4.65	12.7	+89.8
Total per "case"	24.68	100.0	36.59	100.0	+48.3

[a] "Case" in this context means "patient treated by a given physician during the quarter" and is not to be confused with a medical case.

SOURCE: (*6*:276)

with technical equipment or joined with colleagues in the establishment of physician-owned lab-cooperatives (*Laborgemeinschaften*). In fall 1971, for example, the fee-schedule item "chemical analyses" was billed 9.6 times per 100 "cases." By the fall of 1974, this figure had risen to 24.1 (*6*). As Table 2 indicates, roughly 35 percent of the average reimbursement per "case" was accounted for in 1974 by technical procedures. That percentage has risen since. Because information on the organization of medical practices in West Germany is scarce and dated, it is not known what proportion of practitioners have yet to furnish their offices with laboratory equipment. It is therefore not clear when the growth in use of technical procedures will reach an asymptote.

This phenomenon is by no means peculiar to West German medical practice. A similar shift toward technical procedures has been noted by S. Sandier and A. Thaumont (*7*) in their analysis of health care expenditures in France. The analysis indicates that the overall use of laboratory procedures in France increased at an average of 10.7 percent during the period 1969-74, and at the rate of 15.4 during 1973-74. The analysis also indicates that the use of technical procedures per visit or consultation among patients facing a coinsurance payment is substantially below the rate observed for patients exempt from coinsurance. Since exemption from coinsurance is related to case severity, however, it is not clear whether the observed differences reflect responses to economic incentives or simply medical criteria (*7*:61-69). That question is obviously of great importance from the viewpoint of reimbursement policy.

The ever-increasing service-intensity of medical treatment has become a subject of intense controvery in the negotiations between the West German sickness funds and physicians' associations and has recently attracted the attention of labor unions, politicians, and the media. The sickness funds view the physician's putative ability to increase the service-intensity of treatment "virtually without limit" as a mechanism through which physicians can escape any attempt to control their incomes through fee schedules. In 1975, for example, the federal body of physicians' associations had agreed in the *Bundesmantelvertrag* (federal agreement) to limit increases in fees to an average of 2.3 percent—a move offered as a "positive contribution to cost containment." Based on historical trends, the sickness funds had expected the utilization of services in real terms to increase by only 5.7 percent over 1974–75, and 1975 expenditures for physicians' services to increase by only about 8 percent over 1974 levels. As it turned out, the utilization of services increased by almost 10 percent during the year and overall expenditures for physicians' services rose by over 14 percent above 1974 expenditures. Justly or unjustly, the sickness funds and the general public have viewed this development almost as a betrayal by the medical profession.

CURRENT PROPOSALS TO CONTAIN EXPENDITURES ON PHYSICIAN SERVICES

Current projections of health care expenditures in West Germany suggest that by 1980 employed West Germans will bear a payroll tax of between 13 and 14 percent of gross earnings just to finance these expenditures.[3] The current average contribution is in excess of 10 percent. It is estimated that working members of the *Ortskrankenkassen* (local sickness funds) will be asked to contribute a payroll tax of 11.6 percent for health insurance coverage in 1976 (*8*:9). In view of these projections, West Germans recently have taken a keen interest in the functioning of their health system. During the past year or so, rarely a week has gone by without extended comment on the health system by a major newspaper. Since labor unions have a strong interest in this issue, the matter inevitably has become one of intense political debate.

There have been a number of proposals to control expenditures on physician services. One of these has been cost sharing on the part of patients, although there seems to be little political support for it and strong opposition on the part of labor unions. Interestingly enough, spokesmen for labor unions do not favor a return to the erstwhile system of capitation payments (5:14). It is felt that, under the statutes now governing West German health insurance, the prepaid capitations would rise at roughly the same rate as do physician incomes now. Under these statutes (par. 368 f, section 2 of the RVO), capitation payments are to rise in step with the service-intensity of treatment (*5*). This requirement effectively vitiates the effects normally sought with capitation payment.

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[3] A good discussion on these projections can be found in (*8*).

An alternative proposal is to draw a distinction between traditional medical services requiring a heavy input of physician time and ancillary service requiring little, if any, physician time. For the latter type of services, physicians would be paid an annual lump sum tailored, presumably, to the staff and equipment demonstrably employed in their practice. Traditional medical services, on the other hand, would continue to be paid on a fee-for-service basis. The theory is that, given an overall time constraint, there is a natural limit beyond which a physician cannot push the rate of output of such services. No such constraint operates on services not requiring any input of physician time.

Still another and widely favored proposal has been to tie expenditures on physician services directly to average employee compensation (*4*, *9*:18–22). This proposal comes in two distinct guises. One version would be to let physicians' fees rise at an average rate equal to the growth rate in average employee compensation minus the growth rate in the average output of physicians' services per physician (*9*:21). The objective of this policy obviously is to maintain a constant ratio between average gross compensation per physician and average employee compensation. The approach has several disadvantages. First, it treats fee increases and "productivity gains" as perfect substitutes from society's viewpoint. Although not all increases in services produced per physician may represent true *value added* and one is wise to use "productivity gains" in quotation marks, a policy that compensates producers for decreases in output and penalizes them for increases nevertheless is suspect. There is the added question as to why society should guarantee any set of producers—physicians among them—a certain relative position in the nation's income distribution regardless of the number of producers willing or able to enter the market. A moment's thought makes it clear that, under the income formula referred to above, increases in the number of practicing physicians directly translate themselves into increased aggregate expenditures on physician services—hence into increases in taxes on average employee compensation (unless the number of employed persons grows as rapidly or more rapidly than the number of practicing physicians).

An alternative method of linking physician reimbursement to employee compensation would be to limit the total to be disbursed to physicians to some constant fraction of aggregate employee compensation. Such a policy would protect insured persons from upward pressure on insurance premiums. It would not guarantee physicians either their fees or their incomes. The policy would, in effect, be a reversion to a form of global capitation system, akin to that used earlier in West Germany, albeit with a limit on the growth in the capitation payment.

And it might resemble vaguely the pattern that would emerge under a market system not distorted by insurance coverage, if the constraint were chosen appropriately.

A variant of such a policy recently was adopted in the guidelines (*Bundesmantelvertrag* or federal agreement) negotiated between the federal body of physicians' associations (*Kassenaerztliche Bundesvereinigung*) and the federal association of sickness funds. It was agreed that total reimbursements payable to physicians in the years 1976 and 1977 should not exceed 108 percent of the preceeding year's total. An even stricter limit was placed on increases in reimbursements for laboratory procedures. According to the agreement, the average increase in fees is to be 2.35 percent in 1976 and 4 percent in 1977. If the number of services delivered increases by more than about 6 percent in 1976 and 4 percent in 1977, fees will automatically be reduced to maintain the target increase of 8 percent. In short, the interim solution is a step back to the reimbursement system which was in effect during the late 1950s and 1960s. It eliminates the open-endedness of the current reimbursement mechanism and limits implicitly the growth in expenditures for physicians' services to anticipated growth in average employee compensation. The development is interpreted in the media as a victory for the sickness funds and has led to dissension among physicians' associations, as might be expected (*10*). There remains the question whether, in the loosely controlled West German system, the federal agreement will be implemented faithfully at the level of the *Land*.

CONCLUDING REMARKS

Table 3 presents a breakdown of the total payments made in 1975 by all West German sickness funds for various categories of health services. Reimbursements to ambulatory-care physicians amounted to 18.6 percent of the total.

Suppose now that in the absence of the recent agreement on physician reimbursement, 1976 reimbursements would have increased by 15 percent above the figure for 1975. The federal agreement on physician reimbursement, *if* it can be implemented effectively at the state level, would then have the effect of reducing 1976 expenditures on ambulatory, physician care by 100 x (1.15/1.08 - 1) = 6.5 percent below the level they would otherwise have reached. Total expenditures on all services, however, would have been reduced thereby by only around 1 percent! In other words, a control on physicians' gross or net incomes per se buys at best only modest reductions in national health care expenditures, at least in the short run. Incidentally, the argument holds with equal force for France, Canada, and the United States.

It is, of course, possible that current endeavors to limit physicians' reimbursement in West Germany and elsewhere reflect an outrage over a

TABLE 3

TOTAL EXPENDITURES BY SICKNESS FUNDS IN THE WEST GERMAN HEALTH INSURANCE SYSTEM, 1975

Category	Amount in DM	Percent of total expenditures	Percentage increase over 1974	Average annual increase during 1970–75, %
Ambulatory physician care	11.38	18.6	14.6	15.8
Ambulatory dental care, including dentures	7.96	13.0	45.2	25.7
Drugs, etc. sold in pharmacies	8.99	14.6	14.1	16.8
Supplies and sundries	2.63	4.3	25.0	31.5
Inpatient care	17.85	29.1	17.1	24.3
Sickness cash benefits	4.68	7.6	9.8	13.7
Preventive care	1.08	1.8	24.9	34.4
Other services	3.85	6.3	9.0	10.0
Total services	58.43	95.3	18.8	19.5
Administration	2.91	4.7	10.9	16.9
Total Expenditures	61.34	100.0	18.4	19.5

SOURCE: Preliminary data obtained from the Bundesministerium fuer Arbeit und Sozialordnung, Bonn, West Germany.

perceived inequity more than concern over health care costs and expenditures. Physicians in almost any Western nation earn incomes that lie at or near the top of the nation's income distribution. In general, their incomes are highly visible, both because they hold a certain fascination for the media and because physicians tend to surround themselves with luxuries that can be related readily by laymen to an income figure. In West Germany, the United States, Canada, and possibly France, it is now widely thought that physicians are basically overpaid. This conclusion sometimes is reached by comparing the incomes of physicians with those of similarly educated persons, although that comparison is subject to error. A more straightforward criterion would be whether, at prevailing physician's incomes and costs of medical training, the potential supply of qualified physicians exceeds society's need or demand for them. If so, physicians can be said to be overpaid, at least from a strictly economic perspective.[4] A policy on physicians' incomes may be intended primarily to eliminate what is perceived as an inequity. Althrough this sentiment may be less than admirable, it may well constitute a significant political force. There is the added consideration that under a comprehensive insurance system, such as that in West Germany, some arbitrary limit to physicians' incomes must be set.

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[4] One hastens to add that many other occupations can be shown to be overpaid by the economist's criterion; for example, airline pilots, longshoremen, plumbers, college professors, or any other type of occupation to which entry is artifically limited and for which there is an excess supply of qualified potential entrants.

Finally, one may wish to use the reimbursement mechanism for purposes other than mere cost containment—for example, to redistribute manpower of physicians geographically or among specialties. As I have argued elsewhere (*11*), one might scale fee schedules by geographic location so as to induce desirable marginal shifts in the location of physicians. Such a policy is apt to be ineffective if the implied geographic income differentials are small relative to the average physicians' income available in preferred locations. Clearly, policies to influence physicians' behavior through fiscal incentives presuppose that physicians' incomes be reasonably lean.

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ALTERNATIVE APPROACHES TO THE REIMBURSEMENT OF PROVIDERS IN THE NETHERLANDS

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In this category, attention is drawn to the problems relating to the method by which doctors and institutes of health care are reimbursed. The cost structure of health care contains many constant elements, at least in the short term. In the cost of health care, drugs and medical aids are discerned as typical variable elements; the remaining costs relate to establishments of health care and doctors' practices.

Based on calculations by the Central Bureau of Statistics, the personnel factor in institutes of health care is about 70 percent of the total costs. Of the remaining 30 percent, more than one-half can be regarded as constant since these costs bear on the maintenance of buildings and installations and on administration, feeding, and lodging personnel, etc. The variable part can be specified at 15 percent at the most. The constant elements may be even higher in the costs of doctors' practices than in institutes for inpatient health care. Under these circumstances use of the fee-for-service as well as the compensation for services for institutes via prices hardly seems appropriate to obtain cost control.

The economy of health care has been typified as one in which the occupancy rate has a central position. In lower occupancy the tariffs have to be raised to prevent losses. The same applies to fees charged by doctors who are inclined to charge higher fees for their services in diminishing practices.[1]

Under these circumstances it is better to finance systems that are oriented to the total costs of institutes of health care and the total income of doctors rather than to apply a scheme of rating and fees in which the trend toward increasing production is built in.

TARIFF POLICY OF INPATIENT INSTITUTES

In fixing tariffs for these institutes the Central Organ for Hospital Tariffs (COHT) plays a very important role. The COHT is a private body in which representatives of patients, the sick-fund associations, private insurance companies, and providers of hospital services (The National

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[1] In the Blueprint of Policy of the General Practitioners Association, general practitioners whose practices are less than 2,000 patients still expect an income equal to that of larger practices.

Organization of Hospitals) join with neutral experts in rating hospital services.

The COHT recommends to the Mutual Sick-Fund Associations Council tariffs for insured persons and fixes the tariffs of hospitals with reference to the remaining patients. As a rule specialists are not paid by hospitals but receive their fee from sick fund associations, insurance companies, and patients themselves. There is a strict separation between costs and fees. The costs are charged by the hospital and the fee by the specialist.

Until recently costs for hospital visits were included in the fees of specialists. Lately, an agreement came about between specialists and sick fund associations in which these costs no longer are included in the fee but are paid by the hospitals. For this reason specialists' fees for office visits were lowered by 15 percent. The costs for hospital visits are now passed on to the patients via charges per patient day because separate declaration per office visit in outpatient departments would be extremely expensive (estimated additional administration cost is 100,000,000 guilders a year). Cost increases of a general character, such as wages, can be passed on via general price increases. Each hospital must apply to the COHT for individual cost increases on the basis of a predetermined system.

The output of a hospital in the form of X-rays, laboratory examinations, etc., is taken for granted and not considered in this assessment. The established minimum occupancy rate of 90 percent in general hospitals is abolished so that they will not raise the occupancy artificially in order to comply with set standards, a practice that would result in financial shortcomings.

The COHT has established guidelines for assessing costs relating to general hospitals. In these much attention is given to personnel that can be granted to a hospital in view of the number of patient days. There also are guidelines with reference to feeding, laundry, and upkeep of buildings and installations. COHT is not concerned with assessment of investments because that is a matter for the Board for Hospital Provisions. However, COHT does check to ensure that interest and depreciation are calculated correctly. There are two exceptions to this rule. First, in assessing the upkeep costs, the depreciation of assets is included, and second, strict guidelines exist relating to the application of computers in hospitals. The purchase and use of computers is not allowed unless COHT has given special permission. In cooperation with the National Hospital Council, COHT strives for well-balanced development in this field.

Hospitals are free to choose their tariff structure. Certain items can be included or not included in the charges for patient days. Items other than patient days are calculated in uniform tariffs. For outpatients, each item must be passed on separately. In fixing these uniform tariffs, direct costs and a small amount for overhead are taken into account to keep the difference between costs and income as small as possible. These tariffs are adjusted periodically as wages and material costs increase. Increases in output of similar departments can give rise to a surplus between income and costs.

Finally, the occupancy rate in general hospitals has declined, making it necessary for many institutions to ask for price increases. In the framework of present cost control, making per-day charges in hospitals all-inclusive has been considered so that income derived from inpatient services will vary only in relation to the number of patient days.

In the Memorandum on the Structure of Health Care it was suggested that the tariff system in hospitals be replaced by a system in which the tariff system is terminated and the hospitals are reimbursed for the total costs.

The introduction of a budgeting system is not possible at the present time because hospitals are financed through different channels such as sick fund associations' insurance companies and by patients themselves. Only when hospitals are financed through one source will a budgeting system be possible.

So far as other inpatient institutes are concerned (e.g., psychiatric hospitals, nursing homes, institutions for the mentally retarded), rating problems are less urgent. In general the occupancy rate of these institutions is fairly stable and most services are calculated in charges for patient days. Because charges for patient days are calculated on the basis of total budgeted costs, a sort of budgeting already has been introduced. Guidelines with respect to a certain rate of occupancy are maintained for these institutes.

PAYMENTS OF DOCTORS

In principle, two systems exist for paying doctors, namely, the free system and social security via the Mutual Sick Fund Associations. In the free system doctors are paid on a fee-for-service basis, but rates of payment are supervised by the Minister of Economic Affairs, who can limit fees in relation to general prices.

In the social security system, fees for the whole population are fixed uniformly by negotiations between Mutual Sick Fund Associations and the associations for general practitioners, specialists, and other professionals. The final agreement must be approved by the Mutual Sick Fund Associations Council. Moreover, if the Minister of Public Health and Environmental Hygiene does not agree with the outcome of the negotiations, he can suspend the agreement and request the parties to renegotiate.

Certain financial checks are built into payment by the Mutual Sick Fund Associations. General practitioners are paid according to the capitation system; i.e., a yearly reimbursement per patient which is lower for practices having more than 1,800 patients because this is the point at which all overhead costs have been reimbursed. Specialists are paid for each operation performed, and for outpatients they receive a fixed amount per referral by a general practitioner. If the patient has to return, the specialist is paid per repeat visit. The number of repeat visits to be paid is fixed per specialty based on the national statistical data; repeat visits in excess of these established numbers are not reimbursed.

This payment system allows reimbursement for polyclinic consultations and a few smaller operations. As mentioned earlier, an agreement has been reached in which costs of visits are settled separately between insurance companies and the hospitals.

A while ago, agreements with bacteriologists for laboratory tests were cancelled by the sick fund associations because no reasonable relationship existed between payment and work contribution. Pharmacists and clinical chemists are paid a salary by the hospitals. Doctors working in psychiatric hospitals and ambulatory mental health care are, as a rule, paid a salary.

The fact that general practitioners are paid on a capitation basis and specialists on a fee-for-service basis meets some resistance because it is feared that the consequences will be a higher referral rate from general practitioners to specialists. If too many patients are referred to specialists and hospitals, health care becomes unnecessarily costly. It is possible that in the future doctors will be paid a salary rather than on a fee-for-service basis.

In first-line health care there are health care centers in which general practitioners work together with other disciplines. The combination of fee-for-service payments for general practitioners and salaries for other workers in the same center creates difficulties. In a few health care centers, general practitioners have asked to be placed on salary, and recently specialists often make the same request, although the latter group is still very small because of the higher incomes available under the present system.

An exception has to be made for pediatricians and pyschiatrists who, in general, are appointed on a salary basis. The present scheme still meets with criticism because of the very high incomes some receive. The National Specialists Association takes the view that specialists work as well on fee-for-service as on salary provided that professional freedom is guaranteed. I believe that payment by salary will play a greater role in the future because the present fiscal climate, with its preferred treatment for setting up pension rights, favors salary payments, and other factors, such as free time, vacations, and social security, point in the direction of salary payment. The expected increase of specialists in hospitals also will increase the demand for salaries, although it cannot be foreseen to what extent costs will be influenced by this development. The incentive for performing diagnosis and therapy possibly will lessen; on the other hand, it is expected that in salary payment the number of specialists will increase. Introduction of a salary system does not have to lower the costs.

A problem in the conversion of the present system to salaries is the phenomenon of practice transfer in which a specialist who takes over an established practice reimburses the resigning specialist. A committee of the National Hospital Board and the National Specialists Association is working out an arrangement by which this system can be discontinued.

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DISCUSSION III

Dr. David Salkever: I would like to ask Professor Reinhardt or Professor Eichhorn how that figure of 8 percent in Germany was reached. Was there any kind of analytical effort to provide a basis for that back-of-the-envelope number?

Dr. Uwe Reinhardt: It was estimated with the expectation that employees' average incomes would increase by 8 percent.

Dr. Salkever: But are these gross incomes?

Dr. Reinhardt: Yes, for physicians they are gross, including fringe benefits and everything. Physicians were not guaranteed a net income growth of 8 percent, because their gross expenditures might rise by more than 8 percent.

Dr. William Glaser: Developing national guidelines in Germany represent new attempts to control costs. These are informal agreements between the National Association of Doctors in Insurance Practice and the National Associations of Sick Funds. This is one of the first attempts to move the negotiations from the provincial to the national level. The national associations do not have legal power; they only give advice to the provincial units, so these guidelines have not been enforced this year. However, the historical trend may be to move to national bargaining like this.

Dr. Siegfried Eichhorn: I think informally they have the power. It is possible. Our associations of Doctors in Private Practice are organized on a state basis and they are working together on a federal basis. All state associations are autonomous so they cannot be forced to agree, but informally this does occur. There is always the question of formal or informal power.

Dr. Glaser: This relates to a meeting last week at the Fogarty Center on changing national-subnational relations in health, at which we discussed how the federal systems in other countries sometimes are organized this way. A national decision is made by the provinces participating and making collective arrangements. First, there were negotiations within the medical association, with each of the 11 *Land* (state) representatives agreeing on these guidelines. Afterward, the national leadership negotiated with each *Land* association to persuade it to follow the agreement.

MRS. DOROTHY RICE: Dr. Taylor, you mentioned the use of X percent over and above the budget for the year. How is that set in Canada? Who sets it?

DR. MALCOLM TAYLOR: The Hospital Commission of the government sets it on the basis of analyses of wholesale price indexes and other economic data. Usually the percent is a bit less than the general price increase is expected to be. Three years ago the Hospital Commission permitted 6 percent overall when the price-level increase was expected to be 10 percent. Then it allowed for new programs so that the total expenditure was an increase of 8 percent.

MR. WILLIAM MENNIE: I think it should be added that general budgetary considerations deriving from the provincial treasury and finance people are also considered in preparing these guidelines.

DR. GORDON HATCHER: I would like to make a general comment first about the pessimism over partial approaches to controls. If a cart ordinarily has four wheels, you may wonder if it will roll with only one wheel. You find that without the others it does not function well. You have to look at the complete control mechanism. It is when you put the control measures together that you see the potential for doing something that you cannot do by using only one. This is illustrated by what was described for Germany about bargaining with physicians over the total increase in payments to physicians: i.e. when you put together both the utilization-control and the price-control factors. As Dr. Schweitzer said in an earlier session, price times use equals cost. I think Dr. Taylor referred to that this morning in relation to British Columbia, where for a 2-year period 50 percent of the cost of utilization increase was deducted from the price increase in the fee schedule for doctors. I think that is described in the DHEW-financed study of Canadian health insurance by Lewin and Associates.

Other provinces have done this. Manitoba, for example, has followed this policy. Several of the smaller provinces, even though they have not built this into the negotiations, have calculated from pretty good knowledge what the total increase is going to be. They have done in their own heads the cost calculations on the utilization increases, and obviously their estimates are very close in some of the larger provinces.

DR. TAYLOR: One of the interesting things about negotiations between government and industry is that they were not, as we sometimes seem to think, dealing with a total monolith. In the 1973 negotiations between professionals and the Government of Ontario, increases of 7 percent for 1974 and 4 percent for 1975 were agreed upon. People were really surprised, because even in 1973 inflation had begun to show.

There was a split in the profession between younger and older members of the council, while it was the Government that seemed more monolithic in that it was able to reach decisions much more rapidly than the negotiators for the profession, who had to go back to a divided profession.The young men were saying, "Look, how do we justify the incomes we have, let alone the proposed increases of 15 and 20 percent?" It apparently was their pressure within the Council of the Ontario Medical Association that resulted in agreement on 7 and 4 percent.

MR. ARTHUR WEISSMAN: Dr. Reinhardt expressed an interest in the medical care services used by Kaiser physicians and their families. I suggest that any interested researchers submit proposals to granting agencies to look into this question. I will encourage our organizations to participate.

If undertaken, the study should be broadened. Within our program, there are approximately 3 million people, including sizable university membership groups in the areas we serve. In addition to comparisons of use by physicians' families, physician utilization should be compared for university professors. The comparisons just mentioned should go beyond the use of traditional medical services and include, particularly, psychiatric care.

MRS. ANNE SCITOVSKY: I would like to call your attention to another study. An anesthetist at the Stanford Medical School, while he was at Harvard, studied the amount of surgery done on physicians' families compared to those of lawyers and, I think, one working-class group. His original hypothesis was that, because they know what surgery is like and how much unnecessary surgery is done, physicians' families would have less surgery. He found that the opposite was true.

DR. PAUL GERTMAN: I would like to raise a question for Dr. Gaus. I think his research results would be read with enthusiasm by many state governments. What are the current input costs for rate-setting, including not only the actual dollars but the in-kind dollars that are being charged off, and what would the net input costs and net benefits be?

DR. CLIFTON GAUS: I must add the additional caveat to the findings. These are not net savings because they do not include the cost of operating the regulatory agencies. We are, however, thoroughly documenting the magnitude of the regulatory costs. We need to develop more statistical and formula-type measures to sort out hospitals whose budgets are modest and do not require a costly, intensive review. For some of the systems operations costs are very high. The western Pennsylvania system, for example, employs at least one full-time, senior accountant-analyst per hospital. If we add to this high labor cost that of compiling additional data, using computers, and other administrative expenses, the total cost of the program is considerable.

In the New York State system, however, the direct costs of regulation are low. New York State has over 400 hospitals and a small staff to regulate the prospective rate system. In fact, hospitals in New York State contend that state government staff ought to be larger in order to process appeals more quickly.

The indirect costs of regulation are more difficult to analyze and estimate. In New York indirect costs for statistical- and data-processing are low, but the cost of litigation is enormous. The hospitals are resorting extensively to the courts, and court costs are allowable costs. The state recently considered prohibiting hospitals from including legal costs in establishing a base. I cannot give a precise answer regarding the size of court costs across rate programs, but they are related to the type of rate program. My own judgment is that in New York State they are not of sufficient magnitude to wipe out a several percentage-point savings (as was estimated by the evaluators of the downstate New York program).

Dr. Zachary Dyckman: I would like to address this question to Dr. Glaser and perhaps some others. Have you found that earnings of physicians and other workers in the health sector have increased more rapidly than earnings of the general public in most European countries?

Dr. Glaser: For many decades, physicians were paid more than almost everyone else in Europe. Lower-income groups have risen during recent years, and differences among classes have narrowed. Compared to the poor, doctors have not risen so fast; but they have risen as much or more than other upper-income groups, so they have remained very prosperous. In negotiations over pay, the medical associations are careful to keep doctors in step with the annual increases of other upper-income groups, even if the doctors start from a higher level than the others. Increasingly, doctors' annual pay awards are tied to the general cost of living or to an index of wages for the entire economy, so that their annual increases keep pace.

A striking trend is the great improvement in the incomes of general practitioners (GPs) since 1955. Once they were paid less than specialists and other members of the elite, but they have successfully pressed the medical association, sick funds, and governments to raise them almost to the same level. Regardless of whether the GPs are paid by fee-for-service (as in Canada, Germany, and France), or capitation (as in Britain and

Holland), or salary (as in Sweden), their incomes have risen everywhere.

Little data have been collected about the trends in doctors' pay over long periods. An excellent report with recent data is Denise Deliège, *Medical Doctors in the Nine Countries of the Common Market* (Brussels: Department of Medical Demography and Health Economics, Ecole de Santé Publique, Université Catholique de Louvain, 1975).

MME. SIMONE SANDIER: I can add some data from France about that because we have computed the incomes of doctors. Since 1956 the incomes of doctors and most specialists have grown more slowly than the average salary. I must add that it is not so exceptional, because higher salaries, in general, are rising less rapidly than lower ones.

We have the functionaries who are our public servants divided into three categories, A, B, and C; A having 50 percent higher wages. It is exactly the same for doctors as for other people.

DR. TAYLOR: In hospitals in Canada, the nonlabor input—supplies, equipment, and so on—has risen 77 percent compared to a 24 percent increase in the general price level. That means that it has risen 42.8 percent higher than the price level generally. In the 1965–71 period, hospital workers' hourly wages rose 30 percent faster than wages generally. By about the mid-1960s one could say that the catch-up phase had ended, and since then these increases have represented clear gains.

MR. MENNIE: During the early 1960s when the hospital insurance program began, hospital workers' pay clearly was lagging. It was during the subsequent period that the catch-up phenomenon took place, and by the end of the 1960s, hospital workers were doing better than comparable workers in other industries. In the early 1970s, they moved well ahead and now are among the pacesetters in the whole economy as far as wage trends are concerned.

Before there was medical care insurance, the incomes of physicians were increasing a little faster than incomes of other professional groups and incomes generally, and during the period of implementation of medical care insurance from 1968 to 1971, they moved ahead even more rapidly. In the last few years, however, now that we have our provincial programs going, the growth of physicians' incomes has leveled off very sharply.

DR. F. T. MACLEOD: Drs. Reinhardt and Glaser, I would like to ask you whether, with the torrent of planning and regulatory controls that have been alluded to, the monopolistic system will be or could be broken. In the United States, one thinks of Health Maintenance Organizations and fee-for-service existing in the same community, and in other countries one thinks of the possible introduction of some alternative system of payment and practice of physicians. Do you see any likelihood that in the United States we could have the dual system, or do you think there will be the opportunity in other countries to introduce newer patterns of practice along with existing community practice or hospital practice?

Dr. Reinhardt: Dr. Glaser has a better survey of most European nations. My impression from the German system is that physicians have a high degree of control over ambulatory care, including its organization. This power was granted the medical profession through legislation in return for certain "favors." I do not know what the "favors" were.

I think Dr. Eichhorn should talk about an attempt to experiment at the interface between hospital and ambulatory care in West Germany. It is rather interesting and illustrates the power of the West German medical profession. I think you will find that in a system like the West German one it is extremely difficult to experiment with alternative delivery modes. In fact, one of the things that I find so interesting about our nonsystem is that although we have some chaos, there is room and freedom to experiment.

I would say compared to the German medical profession, that the American Medical Association is almost tame.

Dr. Glaser: There are experiments in a few countries, as Dr. Reinhardt said. In certain countries things are quite rigid and the medical association resists change, but in others experiments are going on. What seems to be indispensable is that experiments be done in consultation between the sick funds and the medical associations to develop a kind of friendly partnership.

Finally, in several European countries group practice is beginning, sometimes fostered by special associations of general practitioners.

Mr. Weissman: A more important point has to do with the question of what is necessary and what is unnecessary care. I think that unless we begin to understand the complex concept of *appropriate* medical care, we frequently are talking nonsense. One key question is: "What essentially constitutes the elements of appropriate medical care?" I would urge that any research in this area be published as early as possible, because this issue underlies so much of the discussion about national health insurance, utilization controls, and cost containment questions related to utilization.

We are missing statistically sound, quantitative information on what constitutes appropriate medical care. We need much more information on it. To be sure, it is a many-dimensional concept. Let us begin by defining "appropriate care" in different settings for measurement purposes. The different settings may include medical, social, economic, and demographic (age and sex) characteristics. Let us substitute knowledge for debate on this subject.

Dr. Joseph Newhouse: I would like to comment on "necessary" and "unnecessary." At this conference, there are people who believe that necessary and unnecessary care are useful labels, and others who believe that in practice such a distinction is frequently impossible to make. For example, consider a patient who goes to a physician to hear that he does not have cancer, and in fact he doesn't. Who is to say whether such a visit is necessary or unnecessary?

A more technical point economically on the question of physician incomes is that in the theory of public finance, it usually is assumed that income taxes fall on the person receiving the income, but it seems to me possible that physicians may attempt to shift the income tax and this has led to higher fees. One could test this hypothesis by looking at after-tax income and before-tax income for various professions over time.

Mr. Claes Örtendahl: Most of these problems are not relevant to Sweden today, but we have had some of them previously.

Until 1970 our doctors were paid by the number of patients that they treated. This meant that some doctors, such as those in X-ray or laboratory departments, had very high salaries indeed while others, such as psychiatrists, had low salaries, a fact that severely affected the number of psychiatrists and the quality of psychiatric care as a whole.

In 1970 we changed this. Doctors are now paid with a fixed monthly salary. There is a small group, though, that has another system, and they are the private practitioners. They constitute about 10 percent of all doctors at the moment. Some doctors who formerly had a very high salary suffered a considerable decrease in salary. This is interesting because this was a negotiated settlement with the Swedish Medical Association. The doctors acted out of solidarity with one another to raise some salaries by accepting decreasing salaries for some specialists.

Since 1970 we have had three different episodes of collective bargaining with the Swedish Medical Association, and in these instances we have had raises in salaries for doctors of 10, 5.6, and 3.5 percent. But the raises for nurses and nurses' aides have been 13, 6, and 10; and 11, 6, and 18, respectively, which shows that doctors also have accepted a leveling of their incomes with the lower income groups within the health care system.

Dr. Paul Ginsburg: I would like to add some notes to Dr. Gaus' paper about the prospective reimbursement experience in various states. Possibly one of the first large-scale prospective reimbursement experiences in the United States was the Economic Stabilization Program, where increases in fees charged by hospitals throughout the country were limited to a certain percentage of fees during a base period. It was somewhat difficult to study the effects of this, because the entire country was included. There was no control group. Certainly there were trends in the costs of hospital care that were occurring previously.

Using econometric techniques, I was able to isolate the effects of this program. While I found important reductions in the rate of wage increases in hospitals, I could find no effect, either significant or insignificant, on the use of labor and nonlabor inputs per adjusted admission or per adjusted patient day.

Basically, the experience with that program is not too different from what Dr. Gaus reported. I have personal suspicions that one of the major inhibiting factors in these programs is the short duration of the formulated mandatory controls. If they had lasted longer, a different experience might have been observed, but so far we cannot report any enthusiastic expectations for future controls of this kind.

Dr. Josef Van Langendonck: I agree emphatically with the point that the difference between necessary and unnecessary care is a crucial issue. Without knowing that, one cannot know what one does and does not want to limit. There is no need to limit necessary care; it should be promoted, but one must limit or stop unnecessary care.

I appreciate that it is going to be very difficult for economists, or doctors, or other researchers to identify criteria for necessary and unnecessary care. But the problem always can be solved by asking a lawyer.

In Germany they do this: The law says that physicians and health insurers are not to give or finance care exceeding the measure of the necessary, and the courts decide whether care is necessary or unnecessary. There is a whole jurisprudence of the *Bundessozialgerichtshof* saying what is unnecessary care. That is one kind of solution.

Dr. Reinhardt: These legal solutions are always very nice, but I would like to see more research on this. Analytically, one has to look at any medical intervention—as an investment decision, akin to that made by a business firm. I think you get closer to the truth when you look at it that way. Suppose one could quantify benefits from surgery in some way. If one could, the benefits probably would be a random variable, even for the individual patient. There are costs, particularly, say, with surgery. Suppose one could quantify the monetary and perhaps even psychic costs. They also would be a random variable. So one could get for each potential intervention, for each patient, some benefit-cost ratio. That ratio also would be a random variable. For purposes of decision making one probably would take its expected value and react to it.

If all procedures were arrayed along some scale, say an increasing benefit-cost ratio, somewhere one would draw the line and say, "These are not worth doing" and of the others, "These are worth doing"—just as businesses evaluate their investment decisions. Businessmen do not really talk about necessary and unnecessary investments. They talk in terms of benefits and costs.

One could imagine that semanticists could agree that if a surgical procedure is associated with a random distribution of benefits centered on zero, with a zero variance, one might call it worthless or unnecessary by definition. But there is a large, gray area in which there is disagreement on what are the benefits and costs, what is the benefit-cost ratio, and in which decent people could disagree whether the surgery is worth doing or not.

From the press and from Nader's Raiders,[1] one gains the impression that the set of medical procedures can be divided into two categories: necessary and unnecessary. I think that was Dr. Newhouse's point. This dichotomization of a set of medical procedures is clearly invalid, as becomes apparent if one gives the matter a moment's thought (which Nader's Raiders often do not). If they did, they would realize that they are playing a foolish game.

The research we are talking about involves decision-theoretic approaches to find the marginal yield from another test, given that X tests have already gone ahead, and similarly for surgery.

DR. STUART SCHWEITZER: Dr. Van Langendonck raised a very controversial point, I think, when he suggested he would be willing to let the courts decide the appropriateness of care. Of course, we do that in the United States, as in Europe, though systems of malpractice adjudication differ. An issue that has concerned me for some time is that our algorithm for deciding what is appropriate and what is not is rather confusing. Normally, of course, we let physicians make that judgment, and physicians are eminently qualified as to some dimensions. They lack some expertise, but they certainly have a monopoly power over many other occupational groups.

We let attorneys, juries, and judges make other decisions, and sometimes the rulings resulting from malpractice suits, at least in the United States, seem to lack consistent logic. On the other hand, there are some who would like to return autonomy to the patient, much to the chagrin of some physicians. There are many groups that have a vested interest.

DR. GERTMAN: I think there are two basic problems with Dr. Reinhardt's suggestion. One is that except in problems where frequent mortality results, one is only dealing with morbidity. How does one limit or circumscribe what we are defining as a benefit? Is it only in the medical area? Does it deal with social benefits, family benefits, etc.? Should one count the loss of a job by one spouse to care for an ill child as a cost of the child's illness? Very often, if we are just restricted, for example, to net changes in medical expenditures there are very few things we can improve.

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[1] The media name for environmentalists and consumer advocates who are associated with Ralph Nader.

The second problem is the approach to the value of reductions in morbidity and mortality. Should one use human capital theory as Mrs. Rice and Ms. Cooper have done, or the willingness-to-part approach of Schelling and Acton (i.e., what would people spend to prevent morbidity)? Under the latter approach, children become very valuable, often more valuable than adults, but in the human capital approach children are almost valueless in terms of prevention of mortality.

DR. BERNARD KEMP: It seems to me that it is extremely important to distinguish between physicians' income and the income or return for the physicians' firm, which is a complex of all kinds of health care services and other diagnostic and treatment services. If we are talking about putting a lid on physicians' incomes, that is one thing. But we are talking about putting a lid on the income of the physicians' firm, where there are all kinds of internal substitution among variables. I think that has very different resource allocation problems.

DR. ODIN ANDERSON: I would like to ask Dr. Reinhardt his concept of somebody's being overpaid. What is your concept or criteria of overpaying? Are you working toward a just-price concept in your economy, or what?

DR. REINHARDT: If we look at the queue before medical schools and observe that there is an excess demand for medical education, then either tuition is too low or physicians' incomes are too high. Physicians can be said to be overpaid in this sense. So, of course, are airline pilots, plumbers, and most college professors.

PART IV

UTILIZATION REVIEW PROGRAMS

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UTILIZATION REVIEW PROGRAMS AND THEIR IMPLICATIONS FOR CONTAINMENT OF HEALTH CARE COSTS

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UTILIZATION REVIEW IN BELGIUM

Utilization review in Belgium is related to the characteristics of the health care system and its financing. The health care delivery system is based mainly on curative action provided by independent general practitioners and specialists, the latter usually combining office practice with hospital privileges (see Table 1). In terms of beds, hospitals are evenly divided between voluntary, nonprofit hospitals and local authority hospitals. Whereas acute short-term care and psychiatric beds are in sufficient supply, there is a definite shortage for extended care, in particular for the aged (see Table 2). Preventive medicine is based mainly in so-called health centers which cover at-risk populations by providing specific, sometimes compulsory, screening programs: maternal and child health, school health, industrial health, mental health, etc.

Health care benefits are financed through compulsory contributions to health insurance. Payroll deductions supplemented by employer contributions are contributed to a State Service for Sickness and Invalidity Insurance (SSSII) in the Ministry of Social Security. The latter redistributes the money to five major voluntary health insurance funds according to the amount of reimbursement claims. A subsidy out of general revenue represents some 25 percent of the resources of the SSSII. Patients are enrolled compulsorily in the insurance funds of their choice and are reimbursed for care received, either directly or through third-party payment arrangements. The providers of care, physicians, hospitals, etc., negotiate with the insurance funds through their organizations for rates and fee schedules within the framework and the overall budget of the overseeing SSSII. The insurance funds employ controlling physicians who are backed up by physician-inspectors of the SSSII.

Capital investments for hospital and health center construction are, to the extent that they fit into a national plan, eligible for grants-in-aid (60 percent of construction costs) and low-interest loans under guarantee by the state.

TABLE 1

MEDICAL MANPOWER IN BELGIUM, 1975

Type	No.	Percent	Per 100,000 population
General practitioners	7,557	43.8	77.0
Specialists	7,284	42.1	74.3
Specialists in training	1,500	8.7	15.3
Medical administrators	931	5.4	9.5
	17,272	100.0	Average 176

SOURCE: Ministry of Health and Family

TABLE 2

HOSPITAL RESOURCES IN BELGIUM, 1973

Type	Number of hospitals	Beds	Beds per 1000 population
Acute short-term care	349	53,130	5.20
Mental hospitals	63	26,504	2.73
Extended-care facilities	53	5,215	0.53
TB hospitals	17	1,915	0.20
	482	86,764	8.66

SOURCE: Ministry of Health and Family

In terms of per capita expenditure and percentage of gross national product (GNP) spent on health care, Belgium ranks at the same level as its neighboring countries (Table 3).

Some form of utilization review has existed in Belgium for many years because the introduction of compulsory health insurance for large segments of the population after World War II was accompanied by concern that easy access to medical care would lead to overuse. This basic concern for overuse has been a constant feature in Belgian medical care and health insurance. Over the years, as enrollment in compulsory health insurance expanded to cover the total population and as costs were rising at an alarming rate, two types of utilization control measures were introduced. First, attempts were made to curb use through cost sharing: deductibles, copayments, limits in coverage beyond given benefits, etc. There is widespread doubt about the effectiveness of these measures. Practically no studies have been made to assess the real short- and long-run consequence of these cost containment measures. To a large degree, conventional wisdom and intuitive decision making prevail in this politically sensitive area where one of the goals of the welfare state—free access to medical care—is to be balanced with what seems acceptable and feasible in terms of personal and collective expenditure for health care. Another type of control was utilization review. One must note, however, that documented evidence of overutilization in Belgium is rather limited (*1*) partly because the Ministry of Social Security, which is responsible for health insurance, allocates only $5,000 to health services research out of a yearly health insurance budget of 2 billion dollars (*2*). Apparently, utilization review programs were designed to be implemented on the assumption that unless something was done to prevent it, overutilization would occur automatically.

So far, the following utilization review programs are in effect in Belgium.

Certification of Admission to Inpatient Care

Admission to hospitals and nursing homes is subject to approval by the "controlling" physician of the health insurance fund to which the patient belongs. Five health insurance funds, organized on a local, regional, and national basis, are carriers of the compulsory health insurance program. Approval by the controlling physician for hospital admission is a prerequisite for reimbursement of hospital-stay costs by the health insurance funds. The approval is based on a tentative diagnosis provided by the primary-care physician or the attending physician. In theory, normative lengths of stay along the lines of the Approval by Individual Diagnosis (AID) program of New Jersey could be used by the controlling physicians in granting admission for a specific number of days (*3*). In practice, the program is an administrative ritual, with little attention to reason for admission or to granting a length-of-stay specific for diagnosis, age, sex, eventual surgery, etc.

Length-of-Stay Review Program

If a patient's stay has to be extended beyond the period granted by the controlling physician, a new permission based on review of the case is

TABLE 3

HEALTH CARE EXPENDITURE IN EUROPEAN COUNTRIES, 1970

Type	Belgium	France	Netherlands	Federal Republic of Germany
Health expenditure as percentage of GNP	6.5	6.3	6.4	6.2
Per capita expenditure ($)	225	204	200	240
Health services research as percentage of health expenditure	0.03	0.05	0.14	0.03

SOURCE: (*1*)

needed. However, only rarely does the review go beyond a mere granting of the extension of stay requested by the attending physician. Only cases in which hospitalization involves several months are reviewed jointly by the controlling physician and the attending physician, and even those are rare. In practice, the hospital's business office prepares an application for extension of stay at the same time that the patient is applying for admission, thus reducing the review program to a mere administrative procedure.

Certificate of Procedures

For given items or procedures of medical care, health insurance regulations prescribe that either permission be given by the controlling physician prior to administration of the service or that reimbursement be made subject to his "fiat." Examples of items requiring such certification are dental prostheses, orthopedic appliances, expensive chemotherapy, and chronic dialysis. Again, more paperwork than actual utilization review takes place in this type of program.

UTILIZATION PROFILES

Where the previous review programs result from legislation and regulations regarding social security in general and health insurance in particular, utilization profiles so far are not based on legislation. The health insurance funds decide whether to use utilization data available to them and determine whether given patients or given providers present a utilization pattern at variance with the average profile.

In principle, the health insurance funds have all the needed data to make such comparisons and to identify extremes in utilization (both over-and underutilization). Indeed, health insurance in Belgium is characterized by reimbursement or third-party payment on a fee-for-service basis and per diem rate that provide health insurers with information on all items of service by patient, physician, and hospital. In practice, however, three major problems occur:

Technical Feasibility

The reimbursement system originally was developed for manual operation on a basis of easy access of the insured to local outlets of the health insurance funds. This resulted in a massive paper mill, highly resistant to the introduction of electronic data processing. Recently, however, after several years of unrelenting perseverance to overcome the built-in difficulties of the reporting system, the health insurance funds have progressed to the point where their data systems are capable of providing utilization profiles by patient and by provider.

Reliability of Data

The drawback to the use of codes in the reimbursement system to protect the patient's privacy is that codes irrelevant to the patient's condition can be used by the provider of care. The receiver of care usually lacks the intimate knowledge of his condition and of the coding system to effectively check on miscoding. Reasons for miscoding can be negligence or dishonesty, with financial gain for the provider. There seems to be substantial concern about the reliability of health insurance data, but there has been insufficient investigation to validate this concern.

Professional Objections

As will be explained later, the medical profession is opposed to individual utilization control, arguing that it would lead to interference with diagnostic and therapeutic "freedom." It seems, however, that utilization profiles gradually will become part of the review system and might be effective as the awareness grows that utilization is being monitored. Some thought also is being given to identifying high utilizers, readmissions, diagnosis-specific personal factors, etc., through individual utilization review and thus focusing control on relevant areas.

HOSPITAL DISCHARGE ABSTRACT ANALYSIS

Contrary to the situation in the United States, there is in Belgium little tradition of medical audit. Apart from clinical-pathological conferences, mainly restricted to teaching hospitals, peer review and surveys of professional activities are limited in scope and volume. So far, only 17 hospitals out of a total of 400 are participating in a joint, systematic discharge abstract analysis.

Summaries of inpatient records according to diagnosis are compared among hospitals and attending physicians. This voluntary effort was developed in 1970 by the Department of Hospital Administration and Medical Care Organization of Leuven University at the request of the Ministry of Health and Family as part of a feasibility study to determine whether medical personnel would be willing to accept utilization review and quality control (*4*).

At the present time, no legal basis exists for this program, but the Ministry of Health has drafted regulations that include hospital discharge abstract analysis and peer review as a requirement for accreditation of certain hospitals. Indeed, the accreditation program recognizes three levels of hospital care: general, specialized, and academic. Accreditation of the last two types, which are subject to differential financial support from the state, in the future would require documented evidence of utilization review by the medical staff. The financial incentive involved seems to offer leverage for the expansion of peer review. This however, is no guarantee that the review would affect actual utilization or the quality of care, for that matter.

LABORATORY QUALITY CONTROL PROGRAMS

A number of laboratory services have joined in a voluntary effort to participate periodically in a control program on analytic accuracy. This is quality assurance, rather than utilization review. A proposal to make accreditation of laboratory services subject to participation in such a control program so far has been abandoned because it would give the Ministry of Health too much control of pathology services.

THE IMPACT OF UTILIZATION-REVIEW PROGRAMS

The impact of utilization review programs in Belgium, in terms of cost containment, is limited because of the ambiguity in the legislation and the regulations. Utilization review, in particular through programs based on legislation, is aimed more at controlling dishonesty or "bilking" by the providers or consumers of health care that is covered by health insurance than at attempting to alter the mandate of physicians who control the health insurance funds. The medical profession so far has managed to oppose successfully proposals demanding that, when alternatives for care are available, the most economic one should prevail. One of the reasons why organized medicine went on strike in 1964 against the 1963 compulsory sickness and invalidity insurance act was a provision that every patient should carry an individual record of all services used. This requirement, conceived for control reasons, was considered unacceptable and a violation of the confidentiality between patient and physician. The law was changed to accommodate the medical corps. In 1967, the government, using emergency powers, drafted a special decree on the practice of medicine including a clause specifying cost containment as a criterion in diagnostic and therapeutic decision making.

Organized medicine opposed this provision and maintained that the emergency decree issued by the King strengthened the principle of noninterference in the diagnostic and therapeutic freedom of the physician (*5*). This freedom, interpreted by the profession as an "absolute" right, is a serious obstacle for the future development of utilization review as an instrument of cost containment.

Recently, the government proposed legislation to strengthen the apparatus for controlling physicians and to give more leverage to the mechanisms designed to thwart fraudulent utilization (*6*). The ambiguity continues, however, because the government pretends that this bill is a cost containment measure when in fact it strengthens machinery to cope with dishonesty and fraudulent activity. Another important factor that weakens the impact of utilization review is the conflict of interests confronting the health insurance funds. They are voluntary organizations that existed before the compulsory health insurance programs started, and evolved out of friendly societies at the beginning of this century. By 1946 they were sufficiently powerful to force themselves upon the government as financial intermediaries for compulsory health insurance. One provision of this scheme was to allocate to administration costs 5 percent of the reimbursement money that flows through a fund. This arrangement makes the insurance funds direct beneficiaries of increases in utilization.

A final feature influencing the balance of power in Belgian health insurance is that on the Board of Trustees for Health Insurance within the SSII, representatives of providers (physicians, hospitals, pharamacists, etc.) and of the health insurance funds outnumber those having no direct financial interest in the volume of health services used.

CONTROLLING UTILIZATION THROUGH LIMITATION OF RESOURCES

An emerging policy or set of policies in Belgium is based on the conviction that utilization control on the benefit side is largely ineffective. Once resources are deployed, it is argued, they will be used, and short of directly interfering in the physician-patient relationship (which as explained above is unacceptable and even illegal in Belgium), there seems to be no way to control expanding use. Consequently, the emphasis is shifting toward control of resources made available to the population. The Ministry of Health is taking the lead in this, reversing a tradition in which the Ministry of Social Security dominated the scene. Three avenues are pursued in this respect. First, there is a *shift from inpatient care toward ambulatory care.* To this end, national and regional hospital planning was enacted in 1973 including a certification-of-need mechanism that permitted the Minister of Health to limit hospital expansion and even to aim for a reduction of beds in general short-term hospitals.

Second, a *strengthening of primary care* is pursued in order to cope successfully with the patient loads supposedly to be shifted from inpatient care by the previous policy. However, for the moment, there still is more lip service than real action, mainly because the Ministry of Health lacks the needed administrative structure geared toward primary care; its administrative divisions are focused on hospital services.

Third, there is a *limit on supply of medical manpower.* With a density of 157 doctors per 100,000 population in 1970 and an output from seven medical schools, Belgium is heading for 234 physicians per 100,000 population by 1980 (*7*). Incidentally, the projection for the United States is 23.6 physicians per 100,000 population by 1990 (*8*). As physicians are considered the dominant factor in health care expenditure, pressure is growing not only to limit enrollment in medical schools (at present unlimited) but also to limit the right to set up a medical practice. These proposals are supported by organized medicine to protect the financial situation of its membership, and also because of the free circulation of physicians within the countries of the European Economic Community scheduled to become operative by the end of 1976.

It is clear that cost containment through resource capacity control is a long-term measure unable to cope in the short run with the alarming explosion of costs in health care that confronts the nation. Looming deficits in the Belgian health insurance budget have convinced many that changes more fundamental than constantly raising contributions and state support are needed. To cope with these "problems," the government asked the King in 1974 to appoint a Royal Commissioner to investigate the health insurance system and to formulate recommendations for its improvement. After a year of hearings, the Royal Commissioner Petit transmitted a report to the government which has not been publicly released. "Leaks" to the press indicate that a strong case is being made to bring utilization review in Belgium within a perspective of cost containment and to consider, if needed, infringement on the cherished diagnostic and therapeutic freedom.

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CANADIAN UTILIZATION REVIEW PROGRAMS: THEIR IMPLICATIONS FOR CONTAINMENT OF HEALTH CARE COSTS[1]

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INTRODUCTION

Two Canadian provinces have had universal coverage, comprehensive benefit, publicly administered hospital insurance for over 25 years: Saskatchewan since 1948, and British Columbia since 1949 (*1*). A decade later, after the government of Canada offered approximately 50 percent matching funds (*2*) the remaining eight provinces introduced similar programs. Several, notably Newfoundland and Alberta, had substantial coverage of a large part of their populations under public hospital insurance programs prior to their participation in the dominion-provincial universal program.

In 1962 Saskatchewan introduced universal coverage, comprehensive benefit, publicly administered insurance for physicians' services, which Canadians call medical services insurance or "Medicare" (*3*). Following a doctors' strike (*4*) which secured for the medical profession the major role in quality assurance under the program—utilization review responsibility being shared with the public insurance authority—this program became the model for the nationwide one in which most provinces were participating by 1970. This medical services insurance program, like the hospital insurance program, is administered by the provincial governments with conditional grants-in-aid from the government of Canada, which has the major taxing powers. The matching formulas of approximately 50 percent favor the provinces with lower hospital and medical costs, and thus usually those with lower per capita incomes.

Local governments and regional health planning or administrative authorities have had virtually no role in developing health services in Canada in the last two decades. Most private insurance carriers or intermediaries had limited roles that were phased out in a few years.

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Hospitals and physicians have remained largely independent, individual, nongovernmental, corporate entities, although deriving almost all of their income through the public insurance program. Control of hospital budgets by the provinces generally has been tight, but has provided some flexibility to hospital administrators and has permitted substantial duplication of services and competition between individual institutions rather than rationalizing them into regional systems. Control of physician remuneration has been much looser, with the vast majority of physicians in Canada paid on a fee-for-service basis as private entrepreneurs, as in the United States. Fees have been based on provincial fee schedules, differing usually for each item of service within each specialty, negotiated periodically between the profession and the province. However, these have been loose enough to permit physicians a substantial increase in income since universal health insurance began, and differences in income between medical specialties are also substantial (*5*).

The Canadian hospital and medical insurance programs have been called "zero price" systems, in which the patient incurs no cost at the time of receiving service. While historically this has not been entirely true, there are virtually no deterrent charges or copayments. Hospital bed supply and physician supply increased in anticipation of increased demand before universal health insurance was introduced.

Whereas the paper of my compatriot, Mr. Mennie, deals with reimbursement, price, and supply constraints on expenditures in Canada, this paper will describe utilization controls. Reference will be mainly to three provincial programs: in British Columbia, Manitoba, and Nova Scotia. Table 1 (all tables are in Appendix 1) gives an indication of physician supply and geographic disposal by province.

UTILIZATION CONTROLS

The Canadian utilization control program has two striking features. The first is the development of data systems that enable the administration of the provincial hospital and medical insurance services to monitor trends in use by region, hospital, doctor, age group of the population, and diagnosis or procedure. These data are generated from the claims or payment process since hospitals are paid a daily rate per patient[2] and doctors by fee for service. Professor Malcolm Taylor, in his early work with the Saskatchewan Hospital Services Plan, and William Mennie, in the Research and Statistics Division of the Department of National Health and Welfare, were among the architects of these data systems. Tables 2–4 indicate some of the data from the hospital insurance data system, and Tables 5-9 illustrate some of the uses of data from the medical insurance programs.[3]

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[2] Most hospitals now are paid on the basis of an approved annual budget, but the discharge-based statistical reporting has been retained.

Unlike the utilization review and professional standards review programs in the United States, hospital length of stay has not been the major thrust of Canadian utilization controls. At first only long and very short-stay cases were reviewed; now length of stay by diagnosis also is reviewed.

The Canadian Commission on Hospital Accreditation operates in most provinces, much as does the Joint Commission on Accreditation of Hospitals in the United States. Provincial authorities in the more populous provinces believe some kind of hospital utilization review committee comprising medical staff is operating in most hospitals. Probably only a small minority of hospitals in Canada have evaluated systematically quality of medical care. However, most provincial health insurance plans provide each hospital with comparative utilization data showing its ranking among hospitals of its own size. Two provinces also require all hospitals to subscribe to a single hospital medical record abstracting system, which adds further comparable data on what is done to hospitalized patients.[4] Table 10 is an example of quality assurance data with explicit criteria derived from the Professional Activity Survey (PAS) hospital medical record abstract system. Recently, hospital utilization has been increasing. The budget review and rate-setting process for hospitals provides the main lever for effecting reductions in total days of hospital care.

For example, in Saskatchewan the hospital budget review body of the provincial hospital insurance program uses a formula for expected total days of care in the coming year. Originally this was to provide the denominator for setting each hospital's daily rate; now it is used to estimate the staff and supplies requirements in the annual approved hospital budget. The formula includes factors for the population in the hospital's catchment area, the age, sex, and racial compositions of the population, and the case-mix severity (using a group of comparable hospitals) (*8*).

Twenty years' experience with universal hospital insurance has persuaded Canadian provinces to view traditional individual hospital medical staff utilization review committee activities as only the fine tuning in a provincewide hospital utilization control program. The major elements are controls by the provincial health insurance plan over hospital budgets, hospital bed supply, and the introduction of new services.

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[3] See also annual reports of British Columbia Hospital Insurance and British Columbia Medical Services Commission, Winnipeg, Manitoba; Nova Scotia Health Services and Insurance Commission; and the Health Statistics Publications of Statistics Canada, Ottawa, Ontario.

[4] The Commission of Professional and Hospital Activities program, covering all hospitals in Alberta, is the only one currently operating in Canada. The method described by Waldman is representative of such Canadian activities (*6, 7*).

The second major feature of Canadian utilization controls has been the use of the so-called physician's profile in the administration of medical insurance programs in each province. This is the starting point for peer review of each physician's pattern of practice, which has both utilization review and, to a lesser extent, some quality assurance functions (*9, 10*).

Since most medical services in Canada are paid on a fee-for-service basis, doctor's claims are the basis both for patient profiles (Table 11) and for the physician's profile (Tables 12 and 13).

It will be seen that these cover the whole range of physicians' services, most of which are not for hospital inpatient care. Most provinces have used some form of peer review profile since the inception of universal physicians' services insurance around 1970, but the profiles have become more sophisticated in time and now are the major source of referral of a physician to the Medical Review Committee of the province for investigation and possible penalties. The penalties may include reduction or disallowance of fees for overutilization or, in more serious cases, suspension of the doctor's right to practice within the health insurance program, suspension of his license to practice medicine in the province, or prosecution for fraud.

The early physician profiles obviously were too simple to measure a physician's practice against quality or even volume standards of any reasonable level.

Even with the more sophisticated, computerized profiles, two problems have arisen. First, the average becomes the standard. This standard is often the average in a province for all specialists of a given type and for all general practitioners in a given region. On closer examination, it seems probable that these are not acceptable standards in many instances.

For example, elective surgical rates and rates for a number of expensive medical diagnostic and therapeutic procedures obviously are excessive in whole provinces and in certain regions in particular (*11*). In some of these high utilization areas, the doctors in the relevant specialties have too little work in their specialty because of oversupply of physicians performing those specific services. This situation is probably more common still in the United States.

When the distorted average becomes the standard, the result is to inflate fee schedules for the procedures that are excessive in order to maintain physician incomes in the specialties that are in oversupply. More recently, studies of physician manpower needs by specialty in Canada have been using existing data on medical care utilization to estimate future needs, thus perpetuating the problem.

The second problem is the difficulty of enforcing penalties for noncompliance with the utilization and quality standards. While some provinces have legislative authority for a range of sanctions appropriate to the situation, most encounter either legal or medical-political problems in enforcing utilization and quality standards. This is all-encompassing, since most of the quality standards are extensions of the elementary concept of quality based on a doctor's having enough time with a patient to give adequate care.

A judge is not interested in what the average doctor does. He wants to know whether this doctor did wrong. The provinces need to distinguish in their health insurance laws and regulations between more and less desirable levels and types of care and the amount of money to be paid for each, as well as between average and fraudulent or delinquent medical practices. The criterion for reimbursement under health insurance is "medically necessary" care, but is it the attending physician, the average medical practice in the area, or some better-defined standard that will determine what is "medically necessary"? If enforcement of utilization and quality standards is not to be too cumbersome, it must depend on some more explicit standards for at least some of the more common problem situations, and not on the average or even [illegible] "expert testimony" before a court.

UTILIZATION RATES

It will be seen (Table 3) that, after initial increases in hospital use following the introduction of hospital insurance, the rates stabilized and then fell a little. However, these reductions are believed by most observers to be due more to reduced acute hospital bed-population ratios as the population grew than to tight hospital utilization controls. When hospitals exceeded their budgets due to increased utilization, provincial health insurance programs usually protested, but in the end reimbursed the hospitals. Also, in a country where the distance to the hospital for the average citizen is so great and where so many hospitals have under 25 beds, provinces often accepted the fact that a small hospital was half hospital and half nursing home, and usually the only institution of either type for miles around. In larger communities, chronic wards of general hospitals and convalescent or rehabilitation hospitals, usually nongovernmental and nonprofit, operated within the hospital insurance program but offered only about a tenth as many beds as the acute care facilities. Tables 1 and 4 show that substantial disparities exist between rural and urban communities in their access to medical and hospital services. Table 3 shows some of the disparities that have persisted between provinces in hospital use and availability, as well as the relationship between bed supply and use.

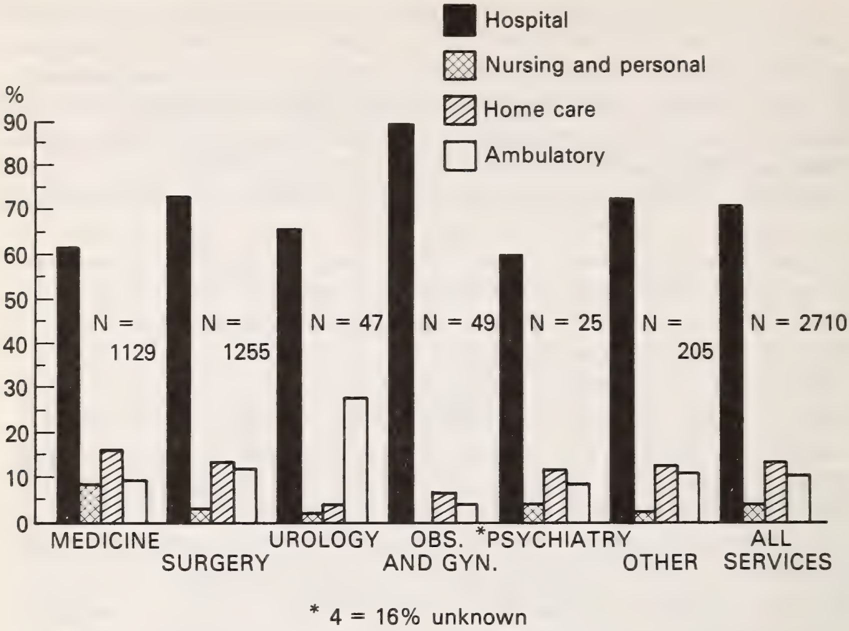

Figure 1. Appropriateness of placement of hospital patients. Recommended mode of care by service, all mainland hospitals, Nova Scotia, 1972. (Reproduced with permission of Nova Scotia Council of Health, Halifax.)

The Canadian hospital utilization review programs have been very gentle in their approach to pushing patients out of acute care institutions into nursing homes or other facilities. Figure 1 and Table 14 illustrate the high proportion of patients in Canadian hospitals not requiring hospital care.

In most provinces, hospital utilization has shown a long-term trend toward increases in admission rates, with days-of-care rates fairly constant since the mid-1960s. This has been associated with a downward trend in average length of stay, especially in the past 5 years.

It should be noted that the average length of stay seems longer than in U.S. general hospitals, partly because in Canada this category includes short-term psychiatric and rehabilitation units in general hospitals.

The closing of acute hospital beds or restraint in new construction as the population increased has probably resulted in more long-term medical patients being transferred earlier to more appropriate facilities. They have been replaced by shorter-term patients, notably elective surgical cases. There has been some upward trend in hospital bed occupancy rates, accounting for the failure of bed-days of care to fall as rapidly as the bed supply.

Utilization rates for physicians' services are illustrated in Table 7 for Nova Scotia for the years since universal Medicare. Table 8 shows the experience of a 2-year period for three provinces. A slow upward trend has been almost universal and seems related most closely to physician supply. Differences between provincial fee schedules and periodic changes in schedules make it hard to monitor use of physicians' services. In a few instances utilization of a specific service has been encouraged or discouraged by modifying fee schedule items.

Note in Table 8 the difference between increased rates of use and increased costs. Since provincial governments usually negotiated only fee increases with their medical associations—not total cost increases—utilization increases account for these differences.

QUALITY ASSURANCE

Similarly, the Canadian approach to quality assurance has been much less direct than that of the U.S. PSROs. In a sense, quality assurance was backed into through utilization review, by confronting examples of excessive use of X-ray or lab services, which could not be consistent with care of even minimal quality. At this point action could be taken because quality became a measure of value of an item the public authority was purchasing. How could you pay the fee for a full medical examination to a doctor who claimed payment for 20 such examinations in half a day?

After some decades of such experiences, first with provincial medical welfare plans and then with universal medical insurance, Canadian provincial medical insurance plans have moved beyond disallowing payments to some doctors and even prosecuting some for fraud. The basic pattern has been to expand the role of the medical licensing body in each province to one of quality control and often to reinforce this in two ways: (1) by providing direct access to the licensing body—usually the provincial college of physicians and surgeons (in Quebec now called the Medical Corporation)—of data from the provincial medical insurance computer on doctors' profiles and patterns of practice; and (2) by establishing a lay body to supervise the professional college or corporation, to ensure that it acts on citizen complaints and on aberrant medical practices referred by the health insurance program (*12*). While the ridiculously high malpractice insurance rates in the United States—in contrast to those in Canada—reflect in part other factors (such as control by judges appointed for life over awards that in the United States depend more on jury decisions), the role of the colleges as arbiters in each province and that of quality control agencies are also major factors (*6, 7, 13*). The powers of the Medical Corporation in Quebec are cited as an illustration (see Appendix 2). This represents one of the really significant advances in control of medical practice in the public interest since Hammurabi's code specified that the doctor whose patient died or suffered serious disability could suffer similar disabilities at the hands of the patients' relatives (hence Hippocrates' later caution—"a case not to be taken").

In smaller provinces the government has at times taken more direct action to deal with specific problems of overutilization and poor quality—in a sense "forcing the hand" of the professional quality assurance body. A case in point is excessive surgery, which under a fee-for-service payment system, with high surgical fees, presents a surveillance problem in both Canada and the United States (*11, 14–16*). In Manitoba, regional tissue committees have been established in some cases to augment the internal hospital medical staff review. Alberta has used its central medical licensing and disciplinary body as the credentials committee of medical staff in smaller hospitals. Thus in Alberta, in addition to the specialty qualifications of a surgeon on the staff of such a hospital, the college takes into account the overall facilities and backup resources of a hospital in deciding what surgery a given surgeon may perform in such a hospital.

Table 7 shows the results of initiatives by the government of Saskatchewan in analyzing its surgical utilization rates by region, hospital, and surgeon from its health insurance data base. Public attention was drawn to the issue, and the college was pressured into taking remedial action—a full decade after universal medical insurance.

CONCLUSION

Three questions were posed to participants in this session:

1. Was the utilization review program effective in controlling utilization?
2. What was the role of the medical profession in effecting or frustrating the utilization review program?
3. Was the utilization review program effective in containing costs?

1. Whether the program was effective in controlling utilization is not clear. "How much worse things might have been without it!" is one judgment expressed by health insurance program administrators in a majority of Canadian provinces. The utilization data suggest at least that, without other control measures, the use of physicians' services will continue to rise, while the leveling off of hospital services use has been at so high a level that it has helped precipitate the current confrontation between the governments of Canada and of the provinces.

It is hoped that the current Ontario program of restriction of hospital bed supply will create a climate in which utilization review can be effective because physicians will see secondary gains in utilizing the remaining beds more efficiently. Restricting of physician supply alone, even by specialty, is unlikely to control medical overservicing or to ensure an appropriate supply and range of medical services for the population of a defined geographic area. The physician's profile is a promising first step toward analyzing the utilization patterns of various types of physicians and rationalizing their services. It needs to be supplemented by a wide range of epidemiological population-based data, by evaluation of the cost effectiveness of alternative arrangements for care, and a system of incentives as well as penalties for doctors as the key decision makers.

2. The organization of medical review committees in three provinces is summarized in Table 14. In general, the provincial health authority has retained claims review and payment approval functions, but has largely delegated to the medical profession the responsibility for utilization review and quality assurance decisions. There has been a substantial degree of acceptance of this responsibility by the profession in most provinces, but it has been directed mainly at relatively few seriously aberrant practitioners. The relationship between the public insurance authority and the organized medical profession to which utilization and quality control functions have been partly or largely delegated (depending on the province) is a dynamic one. At worst, this has been described as the annual public scandal approach, whereby the government pressures the profession into action by publicizing a major problem, such as excessively high surgical rates in a region. At best, enlightened leadership in the profession exacts high standards of ethical conduct and monitors quality at levels beyond government minimum standards, as in many teaching hospitals.

In Canada many doctors or their close relatives or friends occupy high places in government or in the social power structure and have influenced decisions that affected their incomes or their other prerogatives. This has made most Canadian provincial governments less concerned with cost control than they otherwise might have been. As one senior civil servant put it, "Never mind the costs; all the Minister wants is to be sure we keep the doctors happy!" Certainly the operation of utilization and quality controls in Canada is delegated largely to the medical profession, which assumes that the average pattern of practice is appropriate. On the other hand, it is difficult to conceive of the operation of any very extensive program for utilization review without a substantial degree of acceptance by the medical profession. The slow-moving approach of Canada in these sensitive areas generally has been successful in getting doctors to support utilization and quality controls of increasing effectiveness.

3. Finally, what are the overall cost implications of these measures? In general, it can be said that these have not been the most effective of the cost control devices used in Canada. They have taken second or third place to supply restraints, hospital budgetary controls, and fee negotiations (*17*). The experience of British Columbia and Manitoba in linking fee increases to total costs, including utilization levels, is the most promising approach.

Canadian utilization controls improved the quality of medical care rendered, but this is not susceptible to precise measurement without some special, evaluative, long-term studies, which have not been undertaken. Nonetheless, the virtue of the Canadian approach has been to create a structure in which the professional judgments of the individual physician operate relatively freely in assigning priorities to patient care on the basis of medical necessity, within a general system of provincial resource constraints and fiscal controls.

APPENDIX I: TABLES

Table A-1. Interprovincial comparison of physican density, 1973

Area	Physicians per 10,000 Population	Square Kilometers per Physician
Canada	15.7	289
Newfoundland	9.4	859
Prince Edward Island	9.2	58
Nova Scotia	14.3	513
New Brunswick	10.1	120
Quebec	15.9	170
Ontario	16.9	86
Manitoba	15.8	442
Saskatchewan	12.5	612
Alberta	14.6	289
British Columbia	16.8	264
Yukon	8.0	35,859
Northwest Territories	8.4	116,627
United States	16.1	28
West Germany	17.8	2
World	8.2	43.6

Source: Canada Year Book 1974

Table A-2. British Columbia hospital statistics, 1964. Rate of separation and days of care per 1000 population by community of residence.

Community Size	Separations		Patient Days	
	Adults and Children	Newborn	Adults and Children	Newborn
100,000+	141	17	1,674	124
30-99,999	142	18	1,519	134
10-29,999	160	19	1,545	137
5-9,999	192	23	1,698	151
2.5-4,999	217	27	1,789	172
1-2,499	217	23	1,925	151
Under 1,000	238	27	1,924	173
Rural areas	189	23	1,696	157

Source: British Columbia Hospital Insurance Services, Victoria

Table A-3. Average length of stay by size of hospital and type of service, British Columbia, 1968.

Number of Beds	Adult Medicine	Adult Surgery	Pediatric Medicine	Pediatric Surgery	Maternity
<24	10.0	6.7	7.2	3.8	5.7
25-49	9.7	6.7	7.4	3.6	5.6
50-99	10.4	7.7	9.0	3.8	5.8
100-399	12.2	9.0	7.7	3.7	6.0
400 and over	15.1	11.2	10.8	6.4	6.7

Table A-4. Hospital utilization rates and bed supply, public general hospitals, two Canadian provinces 1953–74 (5-year averages and selected years).

	Beds (rates per 1000 population)		Admissions (rates per 1000 population)		Hospital Days		Average Length of Stay	
	Manitoba	British Columbia	Manitoba	British Columbia	Manitoba	British Columbia	Manitoba	British Columbia
1953–57	4.7	5.6	143.8	160.1	1470.6	1640.7	8.5	10.2
1958–62	5.2	5.2	163.9	157.5	1456.7	1552.8	9.2	9.8
1963–67	5.3	5.1	165.9	160.5	1515.3	1533.3	9.1	9.5
1968	5.4	5.1	172.4	161.2	1565.3	1533.0	9.2	9.4
1969–73	5.3	5.2	171.1	165.2	1519.0	1606.2	8.9	9.3
1974[a]	5.6	5.8	167.6	165.1	1536.6	1788.0	9.2	8.5

[a] Preliminary data

British Columbia commenced universal hospital insurance in 1949, universal medical insurance July 1968.

Manitoba commenced universal hospital insurance in 1958, universal medical insurance January 1969

SOURCE: Canada Department of National Health and Welfare, Health Economics and Statistics Division, and E. Hatcher

Table A-5. Costs of selected medical service procedures: white residents of Manitoba communities, age and sex adjusted, 1972.

Population	Services Rendered	History/Physical Examination	Office Calls	House Calls	Hospital Calls	Consultation
Less than 500	16	$3.44	$20.82	$4.34	$5.74	$2.23
500–1,000	60	3.39	17.58	3.00	5.06	1.77
1,000–2,500	79	3.29	16.77	2.71	4.86	1.89
2,500–5,000	31	3.27	16.53	2.10	4.27	1.97
5,000–10,000	14	3.45	16.73	2.24	4.98	2.27
10,000–30,000	7	5.90	21.92	1.75	3.35	3.03
30,000–100,000	5	6.22	21.85	1.46	3.31	3.28
City of Winnipeg	—	7.50	26.01	1.50	4.14	3.57
Manitoba (rural)[a]	76	3.40	17.94	3.14	5.12	1.81
Manitoba (urban)	137	5.51	21.18	1.83	4.03	2.88
Manitoba	213	5.40	21.02	1.90	4.09	2.83

[a] Communities of less than 1,000

SOURCE: Manitoba Health Services Commission, Winnipeg

Table A-6. Surgical rates per 1000 population. Manitoba 1972.

Population	Services Rendered	Appendectomy	Cholecystectomy	Hysterectomy
Less than 500	16	0.29	0.77	0.20
500-1,000	60	0.39	0.69	0.46
1,000-2,500	79	0.27	0.69	0.42
2,500-5,000	31	0.27	0.72	0.48
5,000-10,000	14	0.33	0.90	0.57
10,000-30,000	7	0.27	0.80	0.50
30,000-100,000	5	0.26	0.84	0.53
City of Winnipeg	—	0.27	0.79	0.48
Manitoba (rural)[a]	76	0.38	0.70	0.43
Manitoba (urban)	137	0.27	0.79	0.48
Manitoba	213	0.27	0.78	0.48

[a] Communities of less than 1,000.

Source: Manitoba Health Services Commission, Winnipeg

Table A-7. Reduction in surgical rates, Saskatchewan 1973-75.

	Rates per 1000 Population			Percent Change	
Procedure	1973	1974	1975	1973 to 1974	1974 to 1975
Cholecystectomy	4.02	3.52	3.27	-12.4	- 7.1
Varicose vein ligation	1.54	1.12	1.07	-27.3	- 4.5
Hysterectomy, abdominal salpingectomy, ovariectomy[a]	4.18	3.04	2.39	-28.6	-21.4
Ovarian cystectomy[a]	2.36	1.31	0.89	-44.5	-32.1
Tubal ligation[a]	6.16	7.27	7.46	-18.0	- 2.6

[a] Rate per 1000 females.

Source: Annual Report, Saskatchewan Medical Care Insurance Commission.

Table A-8. Utilization of medical services by type of service, Nova Scotia 1970–75, per 1000 population.[a]

	1970	1971	1972	1973	1974	1975
Consultations	104	155	169	173	169	181
Office visits	1,948	2,617	2,692	2,750	2,847	3,040
Home visits	323	434	392	367	361	423
Hospital visits	710	1,109	1,137	1,044	1,024	1,029
Intensive care/Referred care[b]	107	79	15	16	18	19
Psychiatric services	26	41	55	61	64	80
Eye exams	70	93	98	106	109	110
Other Dx and therapy services	232	347	368	336	347	365
Confinements	15	20	19	18	18	17
Other ob-gyn services	42	60	60	61	58	58
Major surgery	31	45	47	48	44	45
Minor surgery	97	125	129	121	123	123
Surgical assists	16	22	24	25	25	25
Anesthesia	60	87	94	80	90	96
All other	13	26	27	58	57	59
Total	3,794	5,260	5,325	5,273	5,354	5,670

[a] Fiscal year to March 31.

[b] Intensive care years 1972 on, referred care for years before 1972.

Table A-9. Percent change in utilization of physicians' services, 1970–71 to 1971–72, rate per 1000 insured population and payments per 1000 insured population: Canada, three provinces.

	British Columbia		Manitoba		Nova Scotia	
	Services	Payments	Services	Payments	Services	Payments
Office						
Complete	6.89	6.33	1.92	2.25	4.43	12.56
Other	5.26	6.41	4.30	5.21	5.60	5.77
Hospital	1.37	2.47	3.54	2.68	0.75	1.52
Home	0.89	-4.39	-14.05	-13.63	-7.18	8.60
Consultations	7.70	11.96	1.65	2.10	11.73	7.17
All visits	4.30	5.10	2.87	2.52	3.32	6.29
Surgery						
Major	3.00	11.20	9.12	7.93	12.29	5.20
Minor	-2.95	6.19	6.62	1.83	5.94	-1.49
Assistance	6.71	9.18	14.65	13.78	9.72	6.91
Obstetrics	2.16	0.74	0.52	-0.28	2.01	-2.73
Anesthesia	3.02	9.85	5.22	8.72	9.36	5.47
Dx and therapy procedures	6.14	12.04	3.46	1.98	10.13	6.70
Miscellaneous	38.85	21.39	-6.12	8.72	12.15	-4.19
All above	4.48	6.88	3.12	3.67	4.11	5.52
Radiology Dx	16.13	NA	-0.62	-0.63	NA	15.91
Laboratory	14.59	NA	5.39	11.50	NA	18.90
All M.D. services	7.07	6.86	3.47	3.91	4.04	7.25
Out-of-province	14.89	12.03	36.13	28.18	15.46	16.51
Grand total	7.13	6.91	3.78	4.20	4.13	7.15

NA — Not applicable.

SOURCE: Department of National Health and Welfare, Health Programs Branch, Ottawa.

Table A-10. PAS profile. Acute myocardial infarctions, 89 patients, sample hospital, Alberta, Canada.

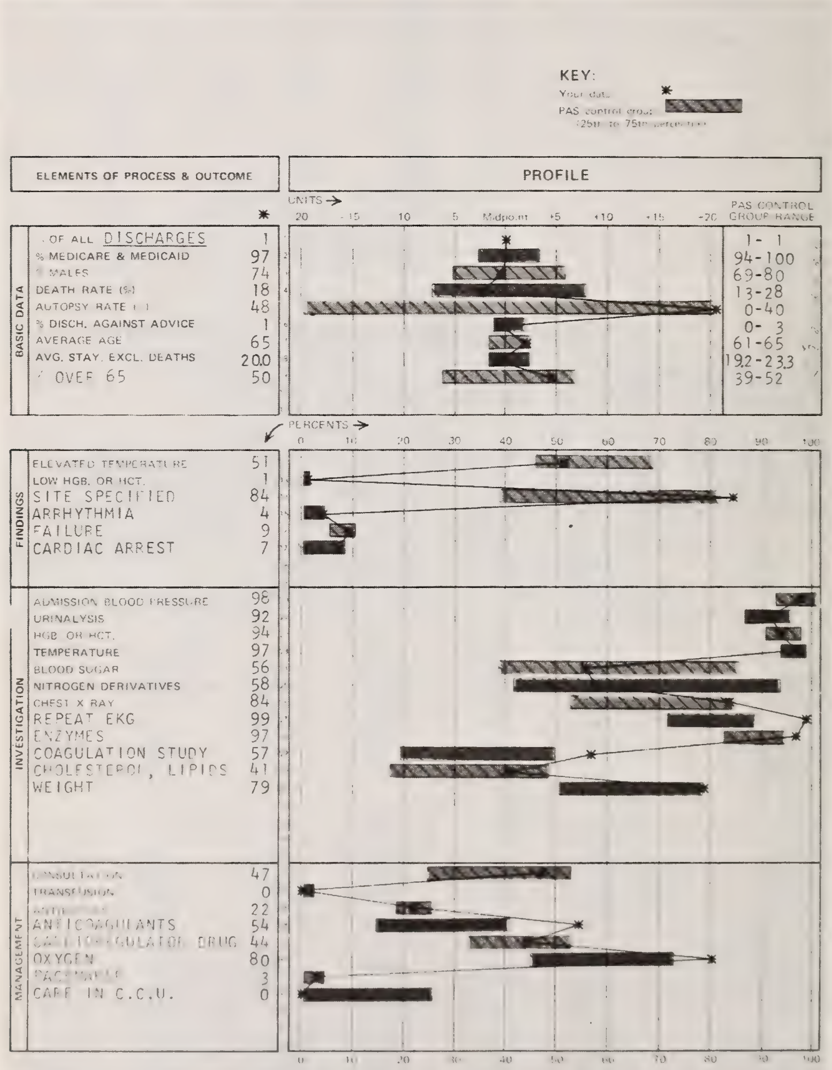

Table A-11. Patient profile, Manitoba.

Registrant's Name	Group Number	Roll	Employee Number	Can Reas	Family Head	Female Spouse	DVA or Common Law	Family Size	Subs	Sex	Spouse Year Birth	Spouse Given Name	Plan Code	MHSC Ref Date	Trans-action Eff Date	Pro-cess Date	PON Code
LAWRENCE	01700							02	08	M	07	FLORENCE	06	010469	010469	020373	314

Dependent Name	S	Birth Date	Dependent Name	S	Birth Date	Dependent Name	S	Birth Date	Dependent Name	S	Birth Date

Name	Yr Birth	Sex	Hosp No	Dr No	DH Blk	DH Grp	Ref Dr	Time/Cost of Dr	Disp	Diag-nosis	Break	Tariff Code	Serv	Adm	Date	Man Code	Hist Code	No. Serv	File Mo	Fee Assessed	Processed			Ret
																					Yr	Mo	Number	
LAW	08	M	005	1043	01		0444			4121		78550	03	10	73		4	01	11	30 45	73	11	150267	06
LAW	08	M		0441	04					4131		78540	01	10	73		3 K	01	12	12 15	73	12	147805	07
LAW	08	M		0441	04				51	4131		79387	01	10	73		9A	01	12	4 05	73	12	147805	07
LAW	08	M		0441	04					4131		78507	02	10	73		5	01	12	4 05	73	12	147805	07
LAW	08	M		0589	05				50	370K		78543	04	02	74		3 N	01	3	11 25	74	03	222498	12
LAW	08	M	005	0275	11	36				783N		78540	13	02	74		3 N	01	3	11 15	74	03	251821	02
FLO	07	F		3011	07		0441	6011	50			57025	05	02	74			01	3	8 60	74	03	318772	02
LAW	08	M		3165	08		0441	6165	50	783N		89141	12	02	74			01	3	2 10	74	03	340306	02
LAW	08	M		3165	08		0441	6165	50	783N		89641	12	02	74		Q	01	3	1 35	74	03	340306	02
FLO	07	F		3165	08		0441	6165	50			89150	05	02	74			01	3	90	74	03	340314	02
FLO	07	F		3165	08		0441	6165	50			89273	05	02	74			01	3	1 10	74	03	340314	02
FLO	07	F		3165	08		0441	6165	50			89641	05	02	74		Q	01	3	1 35	74	03	340314	02
FLO	07	F		3165	08		0441	6165	50			89075	05	02	74			01	3	2 10	74	03	340314	02
LAW	08	M	005	1043	01					4291		78510	17	02	74		211	01	3	9 60	74	03	367143	02
LAW	08	M	005	1043	01					4291		22307	18	02	74			01	3	107 00	74	03	367143	02
LAW	08	M	005	0163	04		1043			4121		78550	19	02	74		4	01	3	21 40	74	03	396028	03
FLO	07	F		0441	04				50	780M		78540	05	02	74		3 K	01	3	12 90	74	03	400946	02
LAW	08	M		0441	04				50	250F		78540	11	02	74		3 K	01	3	12 90	74	03	400947	02
LAW	08	M	005	0221	10	11	1344	0008		4581		42545	13	03	74			01	4	52 80	74	04	033491	02
LAW	08	M	005	1632	01		0163			4121		78550	15	03	74		4	01	4	32 30	74	04	130976	03

CANCELLATION REASON CODES

01	Left province, certificate issued
02	Deceased
03	Merged into another registration (single)
04	Military service
05	Registered on another number
06	Registered in error
07	Whereabouts unknown
08	Released or admitted to institution
09	No longer on public or social assistance
10	Left province, date unknown, no certificate issued
11	Under 19, added back to parent's number
12	No longer separated, added back to husband's name
13	Merged into another registration (family)
21	Left province, residing in Alberta
99	Contract suspended, see Claims Dept. manager

Table A-12. Manitoba M.D. profile, January 1972–December 1972, 110,534 patients.

			Unreferred				Referred		
Surgery--General	Code	Services	Cost	S/100	CPP	Services	Cost	S/100	CPP
History & physical examination	00	28,393	359,093.35	26	3.25	1,564	21,062.27	1	0.19
Office calls--initial	01	83,023	518,688.60	75	4.69	2,301	30,782.79	2	0.28
subsequent	02	63,849	271,558.12	58	2.46	2,543	11,955.22	2	0.11
House calls--routine	03	3,227	28,990.40	3	0.26	330	6,452.85		0.06
Hospital calls	04	56,637	214,942.26	51	1.94	12,514	49,945.70	11	0.45
Consultations	05	18,349	388,033.60	17	3.51	12,910	269,457.30	11	2.44
Anesthetic--surgical	06	6,163	15,251.35	6	0.14	17,319	621,779.11	16	5.63
obstetrics	07	5	106.70			107	2,796.70		0.03
X-ray--head, neck	08					1,862	11,259.90	2	0.10
chest	09					22,100	89,403.85	20	0.81
spine, pelvis	10	1	12.75			6,350	40,273.85	6	0.36
upper extremities	11					4,568	18,207.85	4	0.16
lower extremities	12	1	8.50			6,130	25,404.80	6	0.23
abdomen	13					20,313	180,664.50	18	1.63
urological	14					2,612	21,195.20	2	0.19
O & G	15					22	102.00		
special	16					836	8,289.95	1	0.07
therapeutic	17					24	70.80		
radium	18					191	3,740.00		0.03
Laboratory tests	19					30,469	124,905.60	28	1.13
short	20	18,871	23,081.50	17	0.21	55,681	92,723.01	50	0.84
Heart tracing	21	1,602	7,151.05	1	0.06	4,897	30,614.45	4	0.28
Eye test	22					131	1,325.80		0.01
Allergy care	23	744	2,314.95	1	0.02	76	1,228.20		0.01
Immunization	24	3,030	5,153.35	3	0.05	6	10.20		
Injections	25	6,032	12,863.30	5	0.12	296	950.30		0.01
Surgery $50 or over	26	15,747	2,218,535.33	14	20.07	894	118,267.26	1	1.07
Surgery under $50	27	25,198	333,838.08	23	3.02	2,897	56,021.75	3	0.51
Surgical assistance	28	1,371	60,246.75	1	0.55	7,337	322,203.80	7	2.91
Other tests and examinations	29	56	528.56			422	6,236.30		0.06
Cytological smears	30	7,240	12,306.25	7	0.11	2,664	7,478.80	2	0.07
Confinements	31	166	18,747.85		0.17	11	1,270.50		0.01
Cesarian	32	33	5,224.70		0.05	7	1,074.00		0.01
Abortions	33	60	2,718.61		0.02	10	548.25		
Ectopic	34	9	1,136.75		0.01				
Dental surgery	35					8	632.75		0.01
House calls--emergency	36	3,069	38,980.95	3	0.35	203	2,588.25		0.02
Electric shock--therapy	37					161	1,368.50		0.01
Sup. hosp. concomitant	38	161	519.45			1,836	7,708.05		0.07
		343,037	4,540,033.06	311	41.06	221,882	2,190,000.41	199	19.80

SOURCE: Manitoba Health Services Commission, Winnipeg

Table A-13. Nova Scotia physician profile.

Physician Profile	Specialty	Location	Name	Dr. No.	Peer Group
For 12 months ending Dec 31/73	00 Family Practice	19 Anytown	Dr. J.J. Jones	0000	XJ

	Totals				Indexes		
Services	Payments	Patients	Fee Group and Item	Services	Payments	Patients	PSI
12,069	55,123	1,977	Total	156	132	98	160
20	255	19	001 Major consult GP	126	126	120	143
5,970	25,363	1,544	103 Office visit GP	153	153	100	156
12	51	10	105 Well baby care GP	18	18	25	26
698	4,138	331	121 Day home visit GP	166	166	138	171
76	638	69	123 Night home visit GP	73	72	71	73
72	612	61	125 Emergency visit GP	243	242	220	305
117	986	115	127 Sunday & holiday visit GP	132	131	137	135
114	291	71	129 Extra patients - home GP	300	307	251	348
135	574	144	151 Initial hospital visit GP	319	319	316	334
4,013	12,615	298	153 Subsequent hospital visit GP	215	210	185	221
128	326	46	201 Injections	81	81	55	83
112	285	11	202 Hyposensitization	37	36	24	43
21	89	25	249 All other list I	177	175	229	229
188	799	186	251 Pap smear	124	124	136	128
15	191	13	252 Sigmoidoscopic exam	119	114	105	143
33	140	33	255 Vaccination	131	132	134	148
25	319	14	299 All other list II	70	78	58	72
26	2,060	26	301 Normal confinement	73	72	73	81
56	213	25	311 Newborn & premature care GP	80	66	69	91
5	213	5	321 Diagnostic D & C	76	77	75	115
1	21	1	324 Abortion, incomp. or therapeutic	22	9	23	37
6	638	6	423 Appendectomy	166	166	166	551
1	32	1	429 All other dig. tr. surg. over $50	58	23	58	158
2	102	2	461 Adult tonsillectomy	55	54	52	120
4	191	4	472 Fractures over $50	78	54	76	91
1	21	1	479 All other orth. pro. over $50	38	11	38	103
16	82	16	501 Incision & drainage abscess	166	131	170	173
14	230	13	506 Biopsies	291	261	282	387
2	27	2	511 Excision sebaceous cyst	37	36	37	45
23	247	22	526 Excision of warts	88	75	88	94
42	357	42	531 Suture lacerations	84	83	85	86
1	34	1	546 T & A (under 16)	7	7	7	18
17	493	17	551 Fractures ($50 and under)	126	135	126	136
10	94	10	561 Circumcision	90	87	90	110
6	142	6	599 All other minor surgery	23	41	27	25
50	1,741	53	600 Surgical assistant	105	109	109	110
25	357	24	901 Detention fee	74	105	123	121
2	47	2	905 Independent consideration	55	47	57	76
3	51	3	909 Group immunization	51	47	130	119
7	60	6	951 All other services	152	150	133	183

SOURCE: Nova Scotia Medical Bulletin, October 1974, p. 174. Reproduced with permission of the Medical Society of Nova Scotia.

Table A-14. Patient care classification; hospital patients inappropriately placed.

Halifax, Nova Scotia Teaching Hospital	Oneida County, New York All Hospitals
1966	1974
36.3%[a]	15.2%[b]

[a] 18.9% appropriate for long-term hospital.
[b] 6.3% inappropriate level within hospital.

SOURCES: *Nova Scotia:* Gordon, P., et al. (1966), An approach to patient care classification, Canadian Medical Association Journal 95:1228–1236.
New York: Nicklas, E., Inc. (1976), Appropriateness of Placement Study. Survey report to the Mid-State Committee on Areawide Health Planning, Inc., Oneonta, N.Y.

Table A-15. M.D. utilization review organization, three Canadian provinces.

Province	Review Committee	Utilization Review Method (All claims-based)	Penalty
Nova Scotia	Private carrier (M.M.C.) (single fiscal intermediary)	Annual M.D. profiles Patient verification	Sue in court for repayment Force to work outside the plan
Manitoba	Joint committee of: provincial health insurance commission College of Physicians Manitoba Medical Association	Monthly computerized M.D. profile Top 15% on profile indexes	Repayment Call in M.D. to discuss situation
British Columbia	British Columbia Medical Association	Annual M.D. profiles Highest income or Utilization in peer group Abnormal claim	Repayment Reduce fees Revoke license

APPENDIX 2:
EXTRACTS FROM SUMMARY OF QUEBEC LEGISLATION, 1973

NATIONAL ASSEMBLY OF QUEBEC
BILL 250 (Professional Code) BILL 252 (Medical Code)

The main object of this bill is to establish procedure and rules of discipline to be followed by the professional corporations subject to the Professional Code, to institute a uniform system as regards these corporations for ascertaining the quality of the professional acts done by their members, to constitute a Quebec Professions Board to see that the professional corporations ensure the protection of the public, and to set up a Quebec Interprofessional Council which will make recommendations to the Board and to the Government.

Chapter II establishes the Quebec Professions Board, which will be made up of five members appointed by the Government; three of such members, including the president or the vice-president, will be chosen from a list of at least five names furnished by the Interprofessional Council. The Board must in particular see that each professional corporation adopts a code of ethics, determines an arbitration procedure for its members' accounts, establishes an indemnity fund and determines what a professional may include in his advertising . . . The Board must make a report of its activities to the Minister entrusted with applying the Code, before the 1st of July each year, and the Minister must table the report in the National Assembly.

Division V makes rules for the administration of the professional corporations. They will be administered by a Bureau consisting of directors elected by the members of the corporation and of directors appointed by the Board. The number of directors will vary according to the number of members of the corporation. A procedure for election by correspondence is established in the bill. The Bureau must meet at least once every three months. It is to be noted that, among its main functions, it must keep up-to-date and publish the roll of the members of the corporation, recognize the equivalence of diplomas issued outside the province of Quebec, issue specialist's certificates where necessary, organize refresher courses or training periods for professionals and fix the contributions exigible from the members of the corporation. The Bureau must also pass regulations to adopt a code of ethics, establish an arbitration procedure for the accounts of the members of the corporation, establish an indemnity fund and determine what the members of the corporation may include in their advertising. It may also pass other regulations, in particular to prescribe the standards for the keeping of professionals' offices, to define specializations within the profession, to determine the acts which may be performed by a person serving a period of professional training, or determine the terms and conditions for issuing permits, specialist's certificates and special authorizations and to determine the cases in which professionals may be obliged to serve a period of training. The regulations of the Bureau must be published in the Quebec Official Gazette and submitted for approval to the Lieutenant-Governor in Council, and in certain cases must be sent to the members of the corporation at least thirty days before the Bureau passes them. An administrative committee may exercise the powers of the Bureau except those which the Bureau must exercise by regulation. Finally, the members of a corporation must hold at least one general meeting each year. The president of the corporation will there produce a report of the activities of the Bureau and the financial statement of the corporation and such report will be sent to the Board and to the Minister entrusted with the application of the Professional Code, who will table it in the National Assembly.

Under Division VI, a professional inspection committee composed of not less than three members appointed by the Bureau will be established within each corporation. Such committee will supervise the quality of the professional acts done by the members of the corporation, and it will in particular inspect their records, books and registers. The committee or one of its members will inquire of his own initiative, or at the request of the bureau, into the professional conduct and competence of any member of the corporation.

Division VII contains rules on discipline within the professional corporations. A committee on discipline consisting of at least three members will be constituted within each professional corporation. The president of the committee must be an advocate with at least ten years' practice and will be appointed by the Government. The other members of the committee will be designated by the corporation from among its members. The Corporation will also appoint, from among its members, a secretary of the committee on discipline and a syndic and, if need be, assistant syndics and corresponding syndics. The syndic, assistant syndics and corresponding syndics may make inquiries to determine whether a professional has been guilty of an offence against the Professional Code or the special act governing it. The syndic or an assistant may subsequently lodge any complaint which appears justified with the committee on discipline; the Bureau may also require him to lodge such complaint. Each complaint will be heard by the committee on discipline in accordance with a procedure determined in the bill, and the committee may, if it finds the professional guilty, impose on him as penalty a reprimand, a fine, striking off the roll, revocation of his permit or specialist's certificate, or the requirement to remit a sum of money to any person entitled to it. An appeal will lie from the decision of the committee on discipline, to a tribunal consisting of three judges of the Provincial Court. Each decision of the committee or tribunal will be sent to the Professions Board which will publish, in the Quebec Official Gazette, final decisions respecting permanent striking off the roll or revocation of permits. These decisions will also be sent by the secretary of the committee on discipline to each member of the corporation.

Chapter VII provides that offenses to the Professional Code or to an act or letters patent constituting a corporation will incur liability to a fine of two hundred to two thousand dollars following proceedings instituted by the Attorney-General or the corporation concerned. The fine collected will be paid into the consolidated revenue fund if the Attorney-General is the prosecutor, or to the corporation, if it is the prosecutor. Moreover, the Attorney-General may require from the Superior Court a writ of injunctions in respect of any person who commits repeated offenses.

Chapter VIII enables persons making an inquiry in accordance with the Professional Code to apprise themselves, while sitting in camera, of the record kept by a professional and to require the delivery of any document respecting such inquiry. It is further provided that persons making such an inquiry may not be prosecuted by reason of any acts done in good faith in the performance of their duties and that none of the extraordinary recourses contemplated in articles 834 to 850 of the Code of Civil Procedure may be exercised and no injunction granted against them.

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23

UTILIZATION REVIEW PROGRAMS AND THEIR IMPLICATIONS FOR CONTAINMENT OF HEALTH COSTS

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In management relating to cost control, the government controls the infrastructure of the capacity of inpatient health care to an important degree. Legislation concerning planning and building of hospitals exists at the present time.

A new law is in preparation to regulate other provisions in the field of public health. This legislation is mentioned in the text with reference to a policy of cost containment by containment of supply. Entrance into medical schools is restricted because of limited training possibilities with the result that medical manpower also becomes limited.

There is some pressure on the government by some professional organizations over licensing policy that has been introduced due to the increase in freelance professionals.

Management designed to connect cost control to control of the infrastructure seems feasible in a health care in which, to an important degree, costs will be constant on a short-term basis and where the infrastructure determines the cost.

Typically, variable costs are found only in drugs and small medical appliances. An econometric cost study of general hospitals already has shown that a shorter length of stay and a larger turnover of patients have only a very limited effect on the total cost of operating a hospital (*1*).

Even though in health care the costs of the infrastructure determine the total costs, it still remains very important to motivate doctors to provide them with guidelines by which they can make use of the present infrastructure as economically as possible. Naturally, an economical management works directly to cut costs even though the influence on total costs is marginal. Out of such use of the infrastructure ideas can be developed for providing the best health care at the least cost.

Nevertheless, if a doctor is expected to make decisions that are economically as well as medically correct, the procedure around the patient will have to be observed closely for efficiency and effectiveness. The feeling exists in the Netherlands that much still needs to be done in this field.

In first-line health care there still is very little done to quality judgment although mention can satisfactorily be made of the activities of the Dutch General Practitioners Institute. In the Policy Blueprint of the National General Practitioners Association (*2*) a license policy has been recommended for general practitioners and the report has stressed the necessity for quality control of patient care in the first line.

This process also has started in general hospitals where the conditions for guarding and standardizing quality are more favorable, considering the present organization and administration.

It can be ascertained that medical staffs in many hospitals are reasonably organized and in some places within the framework of the staffs serious work is undertaken with medical audit and utilization review concepts obtained and gratefully accepted from the United States.

The Foundation for Medical Registration in Utrecht is an institute established by the National Specialists Association, the Association of Medical Directors of Hospitals and the National Hospital Board. Over 90 percent of the beds in general hospitals are connected to this foundation, which collects and disseminates information concerning patient admittances, e.g., diagnoses, lengths of stay, operations performed, etc. There still is very little use made of this information within the framework of quality judgment of medical care by the medical staffs. However the information is utilized for planning hospital provisions and in econometric cost studies.

Proposals exist with the National Specialists Association and the National Hospital Board to focus increasing attention on the element of quality control in health care.

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UTILIZATION REVIEW: ITS POTENTIAL AS A MECHANISM FOR CONTAINING HEALTH CARE COSTS AND EXPENDITURES

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INTRODUCTION

While there are many important policy facets of utilization review efforts in the United States and many variants of utilization review (UR), the subject of this paper will be restricted to hospital-based, concurrent UR activities directed at decreasing inappropriate hospital utilization. Specifically, the paper will focus on: (1) how UR programs actually work; (2) the different kinds of inappropriate utilization that occur in hospitals; (3) what we can expect UR programs to do about each of these utilization problems; (4) what the cost effects of UR programs, as they are currently operated, are likely to be; and (5) how UR programs might be made more effective.

Despite the enormous operational investment the United States has made in UR programs, there never has been even a nationwide, descriptive evaluation of the content and variation of UR programs, let alone a well-designed and controlled evaluation of the effects of these review programs. There is little "hard," externally valid data on most aspects of UR. Because of this, many of the statements made in this paper are based on the authors' personal experiences and research in this field.

DEVELOPMENT OF CONCURRENT UTILIZATION REVIEW

Utilization review can be viewed as the joint product of two forces: first, the medical profession's goal of retaining the right to police itself through peer review, and second, the public agents', insurance companies', and government's demand to have a way to account for the use of health services they are paying for, and, in particular, to ensure they are paying only for those services that are truly necessary.

The first intersection of these forces occurred in 1959 in western Pennsylvania, when concern over the rise in the cost of hospital care led the local hospital association, medical society, and Blue Cross to form the "Hospital Utilization Project," the substantive forerunner of most current UR systems. This program received wide publicity and spawned other local programs. Most of these early UR efforts were voluntary activities and consisted of analyses of patterns of hospital bed use plus retrospective peer review of the necessity of patients' hospitalization by hospital staff committees that employed length-of-stay guidelines and, in some cases, medical care criteria and standards governing the "appropriateness" of hospital services. Further, these early efforts saw as their principal function the education of physicians within the hospital community about problems of inefficient or inappropriate utilization, with the hope that this would bring about changes in behavior.

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In the short space of 6 years, from 1959 to 1965, the utilization review concept went from being a small, local pilot project to a major component of national health policy when implementation of UR programs was made a fundamental condition for hospitals that wished to receive Medicare reimbursement. Since the original Medicare statutes, federal government regulations about UR have undergone many controversial legal and organizational changes, including the establishment of the Professional Standards Review Organizations (PSROs) but most of these gyrations are not central to the analysis of UR program effects on inappropriate hospital use and costs. However, it is worth noting several major features of today's UR programs which represent important differences from the original forms of UR introduced more than a decade and a half ago. First, utilization review is now targeted directly at cost control of inappropriate use of hospital services rather than the education of providers to more efficient and appropriate practice. Second, most UR today is a mandatory, not a voluntary, activity. Third, UR is no longer an autonomous, local hospital affair, but a process which, increasingly, is formally supervised by medical and governmental groups outside the hospital. Finally, UR now is becoming predominantly a process of concurrent surveillance of utilization, instead of post-factum, retrospective case review. These changes are the source of some of the major strengths and weaknesses of our current UR programs.

DEFINING "INAPPROPRIATE" UTILIZATION

Before discussing the actual process of hospital utilization review, it is important to understand what is meant by the generic term "inappropriate utilization," as used in the UR context.

In reviewing any unit of medical care services—an admission, a test, or a continued stay—a hospital UR committee is asked to decide two things: first, are the services medically necessary; and second, is it appropriate to provide these services in an acute hospital, as opposed to another setting offering a lesser "level of care" (see Figure 1).

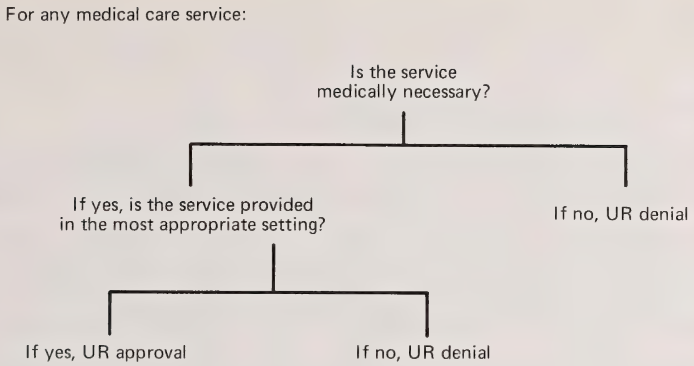
For any medical care service:
Is the service medically necessary?
If yes, is the service provided in the most appropriate setting?
If no, UR denial
If yes, UR approval
If no, UR denial

Figure 1. The UR decision framework.

The term "medically necessary," by most interpretations of government regulations, incorporates those services which are required to preserve the physical well-being of the patient. Except for psychiatric patients, it generally excludes from consideration any aspect of the social or mental health of the patient, and most assuredly is supposed to exclude the financial "health" of the patient and/or his family. It is one of the ironies of health policy in this country that those policymakers in Congress and the Executive Branch of government who exhort health providers to be more concerned for the total health of individuals will often, when it comes to paying for health services, refuse to accept any personal, social, financial, or psychological aspects of the health of patients as justification for the utilization of health services. This underlying "schizophrenia" of governmental health policy has many negative ramifications for the most effective approach toward UR.

Even if a service is judged to be medically necessary, it is not considered "appropriate," for purposes of reimbursement, unless the service takes place in the most "cost-effective" provider setting. For example, if a patient with partial paralysis from a stroke requires extensive, daily nursing care for his well-being, but this care could be provided in a nursing home rather than a hospital, the patient's use of a hospital bed would be judged "inappropriate."

THE CONCURRENT UR PROCESS

In seeking to identify and to prevent unnecessary hospital use, the focus of today's concurrent UR systems is first on the medical necessity and appropriateness of hospital admissions, and second on the necessity of patients' continued hospitalization beyond a predetermined length of hospital stay. The point at which a patient's extended hospitalization is reviewed by a hospital UR committee is based usually on the patient's primary diagnosis and age.

For both of these two points during a patient's hospital stay a similar procedure is followed. Figure 2 depicts a simplified general model of the UR review and decision process. It is important to note, however, that there are many variations on this schema.

In accordance with this process, the patient's medical record is reviewed first by a nonphysician staff member, usually a nurse or a paramedical person with some clinical experience, who makes a preliminary screening decision regarding the necessity of the patient's continued stay in the hospital. This person, usually called a "UR coordinator," can either approve the admission or extended stay on her authority and certify that the patient should remain in the hospital for up to a certain length of time before being re-reviewed, or refer the case to a physician member of the UR committee for his determination. It should be noted that, under most systems, a nonphysician UR coordinator is able to approve only the first major extension of stay on her own authority and, in any repeated reviews, must obtain concurrence of a UR committee physician.

When a case is questioned by the coordinator or referred to a physician committee member, the member generally reviews the case and then either approves it or makes a determination that it is not medically necessary and/or appropriate for the patient to remain in an acute hospital bed. In the latter case, the attending physician usually is notified and asked to provide justification for a continued stay. If he agrees that continued stay is unwarranted and discharges the patient, the process ends. If the attending physician feels the patient should remain in the hospital, the UR process continues.

The case is then re-reviewed and, if the reviewer agrees that the new information supplied justifies continued stay, he certifies the case. If not, he must obtain the concurrence of two or more additional UR committee members before "denying" continued hospital stay. If the physician reviewer does obtain this concurrence from other members of the UR committee, the attending physician, the patient, the hospital administration, and the patient's insurer are all notified of the determination that further insurance benefits for continued hospital care should be denied. Under Medicare and most other insurance programs, the patient, physician, and family are allowed 3 additional days of insurance coverage after their denial notification to make suitable arrangements for post-hospital care; after those 3 days expire, the patient may remain in the hospital, but he will no longer be covered by his insurance.

The attending physician—but not the patient—may appeal UR committee decisions both during the review process (e.g., the initial physician reviewer's decision may be appealed directly to the full hospital UR committee) or after denial notification has been received. Finally, it should be noted that one of the effects of the review process,

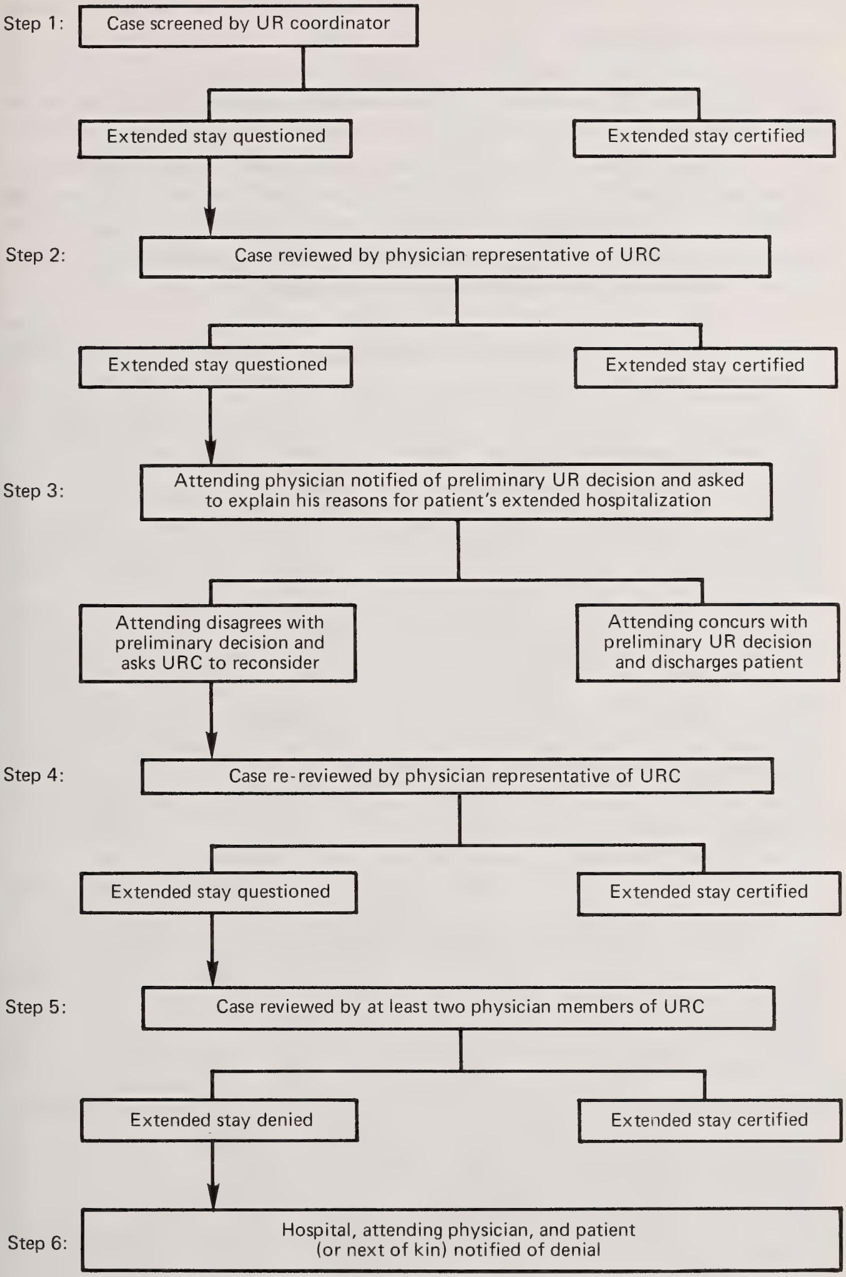
Step 1:
Case screened by UR coordinator
Extended stay questioned
Extended stay certified
Step 2:
Case reviewed by physician representative of URC
Extended stay questioned
Extended stay certified
Step 3:
Attending physician notified of preliminary UR decision and asked to explain his reasons for patient's extended hospitalization
Attending disagrees with preliminary decision and asks URC to reconsider
Attending concurs with preliminary UR decision and discharges patient
Step 4:
Case re-reviewed by physician representative of URC
Extended stay questioned
Extended stay certified
Step 5:
Case reviewed by at least two physician members of URC
Extended stay denied
Extended stay certified
Step 6:
Hospital, attending physician, and patient (or next of kin) notified of denial

Figure 2. The UR process.

starting from the time the case is questioned by a UR coordinator, is that a decision can be made by the patient's attending physician to voluntarily discharge the patient.

At present, admission review generally takes place within 48 to 72 hours of the patient's admission. The initial extended-stay review point, until very recently, has been highly variable. Subsequent extended-stay review points are often left to the discretion of the UR coordinator and vary accordingly. One final point is that the time it takes the UR committee to go through each of the steps outlined in Figure 2 has varied. The cost and utilization implications of this timing of review will be discussed in a later section of this paper.

TYPES OF INAPPROPRIATE USE AND THE EFFECTS OF UR

To understand the types of effects such a UR process might have on inappropriate hospital use, it is necessary to examine the types of "inappropriate" use problems and the factors producing them. Table 1 lists some of the most common problems. In discussing these factors, it is important to emphasize the relative contribution of factors which are within the physician's and hospital's control, and which factors are, at the current time, essentially beyond their control.

A major concern of policy makers, worried over rising costs, is the problem of the admission of patients who do not need to be in the hospital. This issue divides into two separate problems: (1) the admission of patients who do not need any medical care (for example, the homeless patient who presents at the emergency room on a freezing winter night); and (2) the admission of a patient for a reason, such as an elective surgical procedure, which in the view of medical peers is not indicated.

TABLE 1

COMMON PROBLEMS IN APPROPRIATE UTILIZATION

Inappropriate admissions
    No institutional medical care necessary
    Hospital-level care unnecessary

Inefficient management
    The "40-hour" operational week
    Preoperative delays
    Delays in planning of procedures and tests
    Medical consultation and physician decision delays

Inappropriate continued stay
    Physician inattention to adequate recovery
    Lack of available and/or satisfactory nursing home and home care services
    Patient/family resistance to discharge

Concurrent UR procedures, as they generally are implemented, do nothing to prevent these "inappropriate" admissions, since review does not usually take place until 12 to 72 hours after the event. In the "efficient" hospital, the unnecessary operation usually will have occurred before the UR coordinator is even aware of the patient's admission.

The UR process can document a repeated pattern of medically unnecessary admissions by a provider, which can lead to disciplining actions by a hospital's privileges committee or a state licensing board; however, at best, this is an indirect effect of concurrent UR. Further, no one has documented that, on a national basis, admissions requiring no medical care, or in which the care is contraindicated, have made a significant contribution to the misuse of hospital resources.

The other general group of admission problems is the category of patients who need some medical care services, but not at an acute-hospital level. Major subcategories and factors producing them are, first, admissions to a general hospital for diagnosis and/or therapy when services could have been provided more economically on an outpatient basis. Very often, these admissions occur for the convenience of the physician or the patient. Because of the time frame in which the UR process takes place, however, this is the type of problem that UR has difficulty dealing with. Providing that inappropriate utilization is identified, a patient may still utilize literally thousands of dollars worth of hospital services during the 3 to 4 days that usually pass before a patient's insurance benefits are terminated formally. On the other hand, this is one area where UR programs may have had a major impact on physician behavior. In the majority of hospitals today, a "convenience" admission is no longer considered professionally acceptable behavior.

A second subcategory of inappropriate hospital admissions is admissions of individuals who lack adequate insurance coverage for expensive outpatient diagnostic and/or therapeutic services. This problem relates to current methods of financing health care in this country, and the problem's scope correlates directly with the adequacy of insurance coverage. If this is poor, it can produce a moral dilemma for the UR committee, and, as a result, many good UR committees develop an informal set of "social justice" rules. If a hospital admission is technically inappropriate because the tests could be done on an outpatient basis but the medical problem and/or the financial burden for the patient is serious, the UR committee uses every time delay permitted and encourages appeals, so that termination of hospital benefits rarely occurs. If the problem is minor, the UR committee acts expeditiously.

The third group of inappropriate admissions are patients who need institutional care, but not at an acute-hospital level. In the Medicare population, this is probably the most frequent of the three types of inappropriate admission and, in large part, is a reflection of the inadequacies of insurance coverage for subacute, out-of-hospital care for the elderly. In general, patients who need post-hospital, extended institutional care and/or home care probably represent the largest group of inappropriate hospital stays of any kind. Within this group, one of the largest single groups of inappropriate hospital admissions is caused directly by the federal government's requirement that, for Medicare patients to be eligible for Level 1 nursing home coverage, they must first be admitted to an acute hospital for a minimum of 3 days of diagnosis and evaluation. Once admitted to an acute hospital, patients often remain far longer than 3 days. Although no one has any hard data on the effects of this requirement, many observers believe that it wastes hundreds of millions of dollars per year.

The second general category of inappropriate hospital use includes unnecessary days of care resulting from inefficient management of the patient's hospital stay. Major components of this include:

- The 9 a.m. to 5 p.m., Monday-to-Friday work week in many hospitals.
- Unnecessary delays in performing surgery.
- Poor planning and scheduling of procedures and tests.
- Delays by specialists in responding to nonemergency requests for consultation.
- Delays in decision making by some physicians.

Clearly, both the hospital and the physician contribute to these problems. First, except in Health Maintenance Organizations (HMOs), hospitals have little financial incentive to be concerned about reducing delays unless they have very high occupancy rates and admission waiting lists. A large part of the support hospital administrations currently give to utilization review is not due to their concern for "efficiency"; rather, it results from their fear that if current UR and PSRO efforts fail completely the government will replace them with something far worse.

Second, while few physicians deliberately delay their patients' diagnostic or treatment programs, it is uncommon for physicians to place a high priority on the efficiency of this process or to be consciously concerned. Cases where such delays are occurring and which lead to a longer than average length of stay are now being picked up by the concurrent UR procedures. In this context, the extended-stay review procedure may serve as a gentle reminder that a patient's care is not being rendered efficiently; if there have been serious inefficiencies, it is not uncommon, in the more aggressive UR systems, for the reviewing physician informally, or the UR committee formally, to reprimand an attending physician who is repeatedly inefficient.

While there have been no objective, hard data collected on this UR effect, there is little doubt in most observers' opinions that at least a few of the more aggressive individual and areawide review programs have had a very positive effect on the efficiency of physician use of hospital services.

There are two problems, however, that current UR procedures do not deal with. First, available research indicates that almost half of the inappropriate hospital use due to inefficiencies of the diagnostic and therapeutic process occurs in patients who have average and shorter-than-average lengths of stay (*1, 2*). Thus substantial inappropriate use is being missed by customary extended-stay review procedures. Second, neither individual physicians on their own nor UR committees can deal with the suboptimal use of hospital resources produced by the 40-hour work week.

Finally, it should be noted that even if utilization review improves the efficiency of management of patient care and results in shortened lengths of stay, it is unlikely that, percentagewise, there will be anything approximating this in terms of decrease in costs. If the majority of ancillary services for a given diagnosis—the operative procedures, laboratory tests, drugs, etc.—can be thought of as relatively fixed, shortening stays may simply redistribute these services over a briefer period and thus increase average total daily costs.

The third general category of inappropriate hospital use problems is that of the patient who remains in the hospital past the point where continued acute hospitalization is necessary. This is the category of problem that UR programs, since their inception, have been developed principally to deal with.

Two factors are predominantly responsible for inappropriate continued stay: physician inattention to patient recovery and lack of suitable post-hospital care for patients. The first is principally a reflection of the fact that physicians tend to be more concerned about their hospitalized patients who are seriously ill than those who are improving. Since there are few "hard-and-fast" rules—even of an informal nature—of what constitutes satisfactory recovery, it is not surprising that a few days may pass after a patient reaches discharge status before the physician takes full cognizance of this.

The extended-stay review component of UR has become an increasingly powerful force in reducing inappropriate continued stays of this type, particularly in systems where there is areawide supervision of individual hospital activities.

Most of the physician-caused problems of inappropriate utilization—on admission, during diagnosis and treatment, and at discharge—are amenable to aggressively implemented utilization and peer-review efforts. However, the major cause of inappropriate hospital utilization is the admission and/or continued stay of patients who require post-hospital extended care or custodial care, particularly the elderly, the abandoned, the disabled, and the chronically ill.

Many areas of the country do not have adequate extended-care facilities into which patients can be discharged. Additionally, many patients lack adequate insurance coverage for first class nursing home care, and few have sufficient resources to pay for custodial level care. Noninstitutional alternatives such as home care programs never have received adequate support. Further, even when licensed extended-care facilities are physically available, very often these are considered unacceptable either by the patient or by the patient's family.

At its best, for those kinds of patients, the UR committee's questioning of a need for continued hospital stay initiates a negotiation process involving the UR committee, the hospital's Social Service Department, the attending physician, and the patient or patient's family. Sometimes this leads to a mutually satisfactory discharge earlier than would have occurred normally.

Hospital UR committees also are empowered with the ultimate tool to combat this type of inappropriate use problem—the authority to deny patients continued acute hospitalization and, in effect, to coerce them to leave the hospital through placing them at risk for becoming liable for any further hospital bills. However, when there are not *good* alternative facilities available and/or the patient does not have the resources (either personal or through insurance) to obtain such services, the members of the UR committee face a moral dilemma: the abandonment of either their charitable, humanitarian principles or of their enforcement responsibilities.

Further, even if utilization review leads to earlier discharge of all patients who are found to need a subacute level of care, it is not clear how much of a saving such a reduction in hospital bed days actually produces. First, as mentioned earlier, the vast majority of ancillary costs have already occurred. Second, and more important, expenditures for acute hospital care are then replaced by expenditures for nursing home care and other services. If the possibility for rehabilitation to self-care or home care is lost by discharging the patient to a suboptimal therapeutic environment and therefore leads to many patients' permanent institutionalization, the net result could be increased expenditures.

COST CONTROL EFFECTS

Over the last two decades, scattered research studies, using different methods and criteria, have reported levels of inappropriate utilization ranging from a low of 4 percent to a high of almost 40 percent.[2]

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[2] These figures are taken from selected cross-sectional studies focusing on all patients hospitalized in a sample of hospitals at a given time, and other studies focusing on only a segment of hospitalized patients (e.g., patients hospitalized for more than 30 days). For a comprehensive list of studies relevant to "misuse of hospitals," see Reference *3*:499–502. Selected citations includes References *4–8*.

Correcting for geographic, time, and methodological differences; "inappropriate" use, nationally, may lie somewhere between 15 percent and 20 percent of all days of acute hospital care. In our opinion, almost two-thirds of this total probably is due to major disincentives produced by current reimbursement policies or actual lack of adequate financing, insurance coverage, physical facilities, and resources to provide effective ambulatory, home, and subhospital institutional care alternatives. One-third probably is due to provider inefficiencies—half of which are caused by the physician and the other half by the operating characteristics of the hospital. It is doubtful that completely unnecessary care represents more than a small fraction of these inappropriate days.

The more enthusiastic proponents of concurrent UR, particularly of the areawide type, have claimed reductions on the order of 10 percent declines in acute hospital days for Medicare and/or Medicaid patients, in the initial post-development year.[3] They usually *infer* in public statements that this means a 10 percent reduction in hospital expenditures. At best, this is a vast overestimate.

First, even if there are initial 10 percent utilization or length-of-stay declines, these may not be due to the presence of concurrent UR. Several critiques of programs have indicated that declines were occurring previously and also were occurring in nonreview groups in the same area.[4]

Second, it appears that after the initial phase, reductions start to tail off because of system constraints (for example, a lack of nursing home beds), successful correction of previous physician inefficiencies, or a combination of these. Theoretically, this could also be due to declining effectiveness of the review process. Thus, the timing of observations on UR utilization and cost effects may be critical to any evaluation.

Third, even if days are eliminated, the use of average total costs per day as a multiplicand will overstate cost reductions. All days are not equal as expenditure units. The first 3 or 4 weekdays of a hospital admission are far more expensive than later days. Further, as has already been mentioned, few currently operational concurrent UR programs actually will eliminate these initial days of hospitalization because of the number of days it usually takes for review of an admission to result in an admission denial and, ultimately, in termination of insurance benefits.

Fourth, as noted before, apparent hospital cost reductions may be translated in increased nursing home or ambulatory care expenditures.

Unfortunately, there are not any "bottom-line" evaluations of the cost effects of concurrent UR programs. Leaving aside the costs of the review process, it is our personal estimate that in its best initial year, the average concurrent UR system might produce a maximum of 4 percent reduction in total health care expenditures (insured and out-of-pocket) for Medicare and Medicaid populations. Slightly higher savings might occur if there were not lack of first-class nursing home beds in an area. Using current UR procedures, in subsequent years, true reductions of 2 percent in health care expenditures would be an outstanding accomplishment. If the UR system included not only Medicare and Medicaid beneficiaries but also all other hospitalized patients, these cost-saving estimates should be cut by at least another 50 percent. This is because utilization problems likely to be corrected by UR would include only those due to physician inefficiencies.

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[3] See, for example, References *9–13*.

[4] See, for example, References *14–15*.

While others may differ legitimately in their projections of the cost reductions due to concurrent UR systems, any analysis must include the type of factors discussed in the previous sections of this paper.

While concurrent UR implementation probably leads to only a small and relatively brief cost reduction, given the spiraling cost picture, this must be viewed as a very positive accomplishment. Further, it is our opinion that concurrent UR can be a useful tool in cost containment—that is, it can assist in holding down the vast inflationary rise in health care costs. In the past, utilization review, even of the retrospective type, has had a salutary effect in creating a climate of concern over efficiency in the use of hospital resources, and it is probable that if UR programs were removed altogether, this would have a negative effect on cost control. However, utilization review can be no more effective in increasing the efficient use of health care resources than the system will allow. Its real potential will be realized fully only if disincentives leading to the inefficient use of hospital resources are removed and positive incentives are created which will allow UR committees to direct patient care to appropriate and necessary levels. Specifically, these incentives include insurance and service programs to encourage good home care, nursing home care, and ambulatory alternatives to hospital care.

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UTILIZATION REVIEW PROGRAMS AND THEIR ROLE IN COST CONTAINMENT

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Thomas Mann once said, "One looks at revolution and calls it progress; one looks at progress and calls it tomorrow." Certainly we are experiencing changes in medical technology that are revolutionary in scope and impact, and they occur so rapidly as to blur the time frame of today versus tomorrow. With this technological progress has come an explosion in cost, coupled with an increased demand that threatens not only the profession's capacity to serve but also the public's ability to pay. There are the difficulties of providing the services, promoting universal access, controlling cost, and assuring quality that lie behind much of the thrust to set up a nationwide system of utilization review and quality assurance typified by the Professional Standards Review Organizations (PSROs) authorized by Public Law 92-603 in 1972.

In discussing the practical aspects of an operating professional review program, one must consider both the economic and professional impact of such review. It is understandable in these days of seemingly endless inflation of medical care costs that the focus of this conference should be directed toward policies to contain such costs. Of equal, and perhaps greater, long-term importance to an operating PSRO is its impact on the quality of the services rendered the beneficiaries of the programs for which it has accepted such responsibilities. Since the very birth of the PSRO program, the debate over cost containment versus quality assurance has never ceased, with the rhetoric at times both frenetic and pungent. Many professionals, in fact, either have refused to participate in the program or have done so with great reluctance because they associate it with cost control at the expense of quality. To many of us actively engaged in the PSRO movement, the debate seems almost irrelevant, since the program's impact upon cost is likely to be transient and limited to its early years of implementation.

Be that as it may, our interest here today is focused on utilization review programs and their role in cost containment, and I would like to share with you the experience of the Colorado PSRO since it began its prototype utilization review program in September 1973. Early in the history of the Colorado Foundation for Medical Care, it became evident to many of the professionals in the state that the philosophical debates over universal access and removal of financial barriers to the health care system might take center stage but that lurking in the wings was the specter of runaway costs and utilization excesses, with their potentially devastating impact on the system.

In 1968, Garret Hardin[1] discussed a classic human problem that, in his view, had no technical solution. Focusing on the population program, Hardin likened our present dilemma to that of herdsmen whose cattle share a common pasture. As long as the number of animals was small in relation to the capacity of the pasture, each herdsman could increase his holdings without detriment to the general welfare. As the number of cattle approached the capacity of the land, however, each additional animal contributed to overgrazing. Any single herdsman attempting to maximize his own gain could reasonably project that the addition of one or a few cattle to his holdings would have minimal effect on the general welfare. All herdsmen reasoning and acting individually in this fashion, however, would destroy the commons. "Ruin," concluded Hardin, "is the destination towards which all men rush, each pursuing his own best interests in a society that believes in the freedom of the commons. Freedom in the commons brings ruin to all." As Howard Hiatt said, in commenting on this article, "The total resources available for medical care can be viewed as analogous to the grazing area of Hardin's commons, and the practices drawing on those resources to Hardin's grazing animals. Surely nobody would quarrel with the proposition that there is a limit to the resources any society can devote to medical care, and few would deny that we are rapidly approaching that limit. Yet there is an increasing climate to broaden the benefit structure, increase the access, and remove all financial barriers with all the additional stress on the medical commons that such an approach implies."

What, then, can a PSRO do to blunt the seemingly headlong rush to economic bankruptcy that characterizes the health care field today? As a cost containment mechanism, utilization review can contribute only by changing loose practice habits which contribute to unnecessary utilization. We have tried to establish carefully determined norms, standards, and criteria by which to judge the necessity for admission, monitoring the length of stays, and assisting with discharge planning to expedite transfer to less intensive levels of care. To the extent that we shorten average lengths of stay by diagnosis or procedure, eliminate the unnecessary diagnostic admissions, encourage outpatient usage of workups, and discourage the overutilization of ancillary facilities, we obviously will impact costs.

There is an often asked question about the PSRO program: "Is it cost effective?" We have had some difficulty in answering, because it has been difficult to obtain good baseline data for those years prior to the institution of a formal review by the PSRO. However, in preparing to testify before the House Commerce Health Subcommittee of the U.S. House of Representatives, the Colorado PSRO analyzed as carefully as it could our experience with over 265,000 admissions and 95 acute-care general hosptials in urban, suburban, and rural settings. We found that the average cost per admission for our review activity had been approximately $12.27, which included the review procedure and technical backup such as data profiling, physician adviser time, etc. That meant a cost over the program of $3.5 million to review these 265,000 federal admissions that occurred between August 1973 and December 1975, a period of 28 months. That was a significant expenditure of taxpayer's money, and the question of cost effectiveness is a legitimate one.

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[1] Garrett Hardin, "The Tragedy of the Commons," *Science* 162:1243–1248.

Let us look, then, at calendar year 1974, the first full year of statewide review activity covering the federal inpatient in Colorado, and use the number of days utilized per 1000 eligibles as our index of effectiveness. The cost of the program during that year to the federal and state governments was approximately $1.4 million. In 1973, the base year, the Medicaid program of Colorado experienced a 3.8 percent increase in the ratio of patient days per 1000 eligibles. In 1974, with statewide review activity, the program experienced a 9.5 percent decrease in the ratio of days utilized per 1000 eligibles as well as a 9.5 percent decrease in the ratio of discharges per 1000 eligibles. This would indicate a decrease both in the ratio of admissions and the days utilized by eligible recipients under the Medicaid program.

If we examine the Medicare program in Colorado, using the same yardstick, we find that in 1973 the ratio of discharges was up 1.7 percent per 1000 eligibles, although the ratio of patient days per 1000 eligibles dropped 3 percent. In 1974 the ratio of discharges dropped 5.6 percent and the patient-care days utilized per 1000 eligibles dropped 9.5 percent.

Let us take these figures and extrapolate the percentages, based on trend analysis, to the number of days of decreased utilization for 1000 eligibles of both programs, multiplied by the average charge per day. The results for 1974, as shown in the following paragraph, are as follows:

Medicaid:—154 days per 1000 eligibles equals 22,824 days. Estimated Cost Avoidance—1974 equals 22,284 × $116.70 or $2.6 million.

Medicare:—270 days per 1000 eligibles equals 55,222 days. Estimated Cost Avoidance—1974 equals 55,222 × $87.57 or $4.8 million. Thus $2.6 million plus $4.8 million is an estimated cost avoidance of $7.4 million versus an expenditure of approximately $1.4 to $1.5 million.

It would appear that the program is initially capable of decreasing utilization of costly inpatient facilities to a degree that makes it cost effective. Eventually, of course, this will level off as one reaches the minimal level of inpatient utilization consistent with good quality care. However, utilization of facilities is only one of the factors in the cost explosion and the PSRO cannot control the demand, ration the technology, or limit facilities—nor should it. It can provide data eventually that may be of value to those whose responsibilities include these other areas of concern.

So far, we have touched on the quality aspects of the PSRO program in a very cursory way. To the professionals involved in the implementation of the program, this has greater appeal and, in the long run, may be of greater importance. By using broad screening criteria to review initially the care rendered, we may be able to identify problem procedures, diagnoses, and providers, and through educative means, improve quality. The mechanism for this is the medical care evaluation studies now being implemented widely under PSRO auspices.

In conclusion, let me emphasize that formalized PSRO programs, as mandated by the PSRO provisions in Public Law 92-603, appear to have the capacity to aid in cost containment by changing utilization patterns and modifying practice attitudes. In addition, they can play an important role in quality assurance and correcting professional deficiencies through educative means. It was never the intent that they would be the only means of cost containment and anyone who expects them to assume this responsibility is misinterpreting their scope of work. With this fairly well understood, let us not underestimate the role they can play as a partial solution to the seemingly insoluble problem.

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DISCUSSION IV

Dr. Gordon Hatcher: Dr. Platt, the days per thousand eligibles seem awfully low to me, compared to the Canadian experience. We run between 1,500 and 2,000 days per 1000 eligibles, and if we took a Medicare or Medicaid population, it would be even higher because they have more illness. So these cannot be total days of care.

Dr. Kenneth Platt: No, they are the days reduced from the previous level. However, our level obviously is lower than that in Canada because we were lower, in the area between 800 and 900 days utilized per 1000 eligibles in Medicare.

Dr. Paul Gertman: I think that some people who are trying to evaluate Professional Standards Review Organizations (PSROs) are looking at measures such as questioned case denial rates. How many people have been denied continued insurance coverage for hospital care? I think that any denials probably should be regarded as a failure to negotiate the most effective solution for the patient. When there are large numbers of denials over an extended time, it means our system is failing. This is not success, but failure of review. One of the things that people are looking at in utilization review (UR) is, in how many cases were benefits terminated? That would be the process measure of the effectiveness of the system. I would like people to think about this in the future, when we start to see these numbers, for they may, in fact, over a period of time represent failures of our policies rather than successes.

Dr. Jan Blanpain: It also could be a measure of the permissiveness of the procedure. I mentioned that in Belgium we are very lax about denials.

Dr. Gertman: But I think everyone goes through an initial phase in which some denials are a sign that the review system is really operating—that there is substance to it and not just form, as you have in Belgium. After that point, if you really have an effective process in place, as Dr. Platt has in Colorado, high denial rates do not represent a success of UR but rather a failure of a general policy to provide adequate alternatives to hospital care. The UR committee is often faced essentially with a moral dilemma either to deny care to somebody who does not really have an adequate care alternative or to abdicate its responsibilities to the public for acting as the utilization "police agent."

DR. STUART SCHWEITZER: Is there any empirical evidence from Europe on specific reduction in the typical length of stay or number of bed-days per thousand people that has resulted from a coordinated system of nonacute hospital services, such as nursing homes or sheltered housing?

DR. L. M. J. GROOT: In Holland we have made many provisions for nursing homes. Van Praag, in his first study, could find no impact of these nursing homes, but in the later models he has developed, the nursing homes are important factors in the division of patients between hospitals and nursing homes. We are seeing at this time a diminishing rate of occupancy in our hospitals.

We have made the error of expanding our acute hospital facilities and expanding our nursing homes simultaneously. It would have been better to have curtailed the increase of general hospitals and provided for more nursing homes. I must say that, in view of cost containment, it is not very good policy to build so many nursing homes when it obviously damages our system severely.

I mentioned our econometric model of health care costs, and it shows the very minimum influence on hospital costs of shortening the length of stay, because hospital costs are predominantly fixed, leaving perhaps a limit of reduction of 10 percent. I believe a better policy is to see if there is a hospital plant in operation and to use it to the utmost. Diminishing the average length of stay and sending the patient home may increase costs, since the cost of home care may be higher than the marginal cost in the hospital.

So, as an economist, I am a bit hesitant about striving for a shorter length of stay as a cost-containment measure. I do not believe that is where it should be.

DR. FINN KAMPER-JØRGENSEN: We have some experience from Denmark. I compare the sum of health problems with a balloon. When you press the balloon in one place, it expands in another place. Let me illustrate. Doctors in one county hospital were very proud because they were able to reduce average length of stay to below the national average, but at the same time they found that the social budgets financing home nurses, for example, expanded so that the total gain apparently disappeared. That is just one thing. Let me say further that a number of studies in Denmark in the last 5 years in general medical wards, for example, have shown that about 50 percent of patients did not belong in the ward; later it was estimated that about 10 percent in general medical wards (elderly patients) did not belong there. There is a variation among counties, depending on the situation outside the hospital, but the Social Minister recently issued directives as follows: Municipalities and counties should provide better facilities for the attainment of the sociopolitical goal that old people should stay in their own homes as long as possible. It can be calculated whether, on balance, hospital facilities and nursing homes should be built, or whether intensive, personal care in the home should be provided. This supports the whole idea of policy today in Denmark—that the person should stay at home. This is a cost-containing measure, too.

DR. FELIX GUTZWILLER: Returning to Dr. Schweitzer's question: No doubt part of the problem is that a certain percentage of acute hospital patients actually need not be there or could be treated elsewhere more economically. In Switzerland, for instance, this has been estimated to be between 15 and 20 percent.

However, I do not quite agree with the two previous speakers in regard to the issue of just comparing costs of home care with that in other institutions, because I think it is very important to talk about specific diagnoses and not just on the aggregate level.

We did a study with Dr. Neuhauser of the Harvard School of Public Health regarding average length of stay of hernia patients in four different countries. Controlling for age, sex, and diagnosis, we found that European countries in general have much longer lengths of stay in acute care hospitals. This cannot be explained only by factors such as lack of alternatives in the long-stay countries. In the United States the average length of stay is 5 days for hernia patients. Why, then, is it 11 to 12 days in certain European countries? There is no medical reason for this. There is no cost transfer either, such that if sent home after 4 days these patients would cost more in terms of home care. Obviously, there is an issue here of impressive variations in average length of stay that, of course, add to the total cost.

DR. PLATT: I would like to direct a question to Dr. Maynard. I had a call not too long ago from one of your tabloids that asked, "How could the present PSRO program aid the United Kingdom with its health care costs?" When you get that question in the middle of a busy afternoon in your office and answer just off the top of your head, in 30 seconds, it is hard to come up with a cogent answer.

But actually, as I understand it, there are two levels of review before the patient ever gets into the hospital. There is the initial physician, perhaps a family practitioner who refers someone, and there is the referral physician who decides whether the patient goes to the hospital and when. You have to some degree, I think, also rationed your system by the limitation of hospital beds.

DR. ALAN MAYNARD: Yes, during the 1960s we reduced bed stock, and that has been accompanied by many public attempts to reduce the length of stay.

Dr. Platt: What is Britain's average length of stay for a hernia, for instance?

Dr. Gutzwiller: It is the second lowest—7 to 8 days in the United Kingdom as opposed to 4 or 5 in the United States.

Dr. Maynard: By European standards, we are very low. We have followed the American example in this. We move people through the system much more rapidly.

Dr. Platt: So if you could reduce it to 50 percent of what it is now, you could push them through even more rapidly.

Dr. Maynard: Yes, and we also have improved our utilization of bed stock, which was poor in 1960.

Dr. Hatcher: I think in looking at the numbers of beds, we should add the qualification that we have to look very carefully at which category of bed.

I cited, in Table A-4 of my paper, the bed supply per thousand population for 5-year intervals for two Canadian provinces, which varied from 4.7 to 5.6 back in the early days of universal hospital insurance. But in these data we included long-term beds in acute general hospitals, such as the psychiatric ward or the rehabilitation facility, which have about 30 days and 45 days of average stay, respectively.

There might be, in a 300-bed hospital, 40 beds of this kind, which would increase the average length of stay. It is difficult to make these comparisons. These Canadian figures also include special hospitals, such as a separate pediatric institution, which tend to have shorter lengths of stay. You would have to look at this very carefully.

There are figures showing Manchester and the area next to it, and it struck me that it was very like Nova Scotia, where at one end of the province there were 3 beds per 1000, and no one was complaining. The patients were turning over fairly quickly. At the other end was Cape Breton with 8 beds per 1000, and they claimed they needed more beds.

I think the conclusion is that the system is going to follow fashion and absorb whatever costs and whatever money you put into it to keep the beds occupied. Those not used to having many beds are used to getting along with less. If they are in the habit of having a very long stay, they will continue to do so. It is very hard to change. I think if you attempt to solve either quality or cost problems through tackling utilization alone, you are wasting your time. I think one can only fine-tune when he has already made the decisions about bed supplies and restrictions of resources and price controls. Then he can add the quality part or the utilization part.

If, as a matter of overall policy, you decide that more appropriate use of the facilities would be desirable, you have to let professional judgment have free rein as much as possible within these areas. You need monitoring statistics so you can look at what you are doing, but do not interfere too much.

DR. ODIN ANDERSON: Your answer then, is to limit supply, and when the costs catch up with you again, are you going to squeeze the system ever further?

DR. PLATT: I am not going to squeeze the system. People who are responsible for either funding the program or stretching it may squeeze the system.

DR. MALCOLM TAYLOR: I was impressed with your statement that you were running about 900 to 950 hospital bed-days per 1000 for Medicare patients.

DR. PLATT: It is significantly under that now. It is down to 850 or 860 days utilized per 1000 eligible recipients in the Medicare programs.

We have basically two reasons for this. First, we have in Colorado a very significant number of extended-care facilities, long-term care facilities, residential structures, and so on. Second, for years we have had quite a utilization awareness among physicians and institutions in the western part of the United States and in Colorado.

Our average length of stay for a Medicare patient is now in the 8–9-day range. In Medicaid it is down around 5 or less. It is worse in certain areas of the country. It may be 12–13 or more. But the western half of the United States has been experimenting with foundation programs more than the eastern part of the United States. That is one of the problems with the popular press story that was spread across the country, comparing utilization in Kingstown in Brooklyn with that in San Joaquin and trying to interpret that as good medicine in San Joaquin and bad medicine in Brooklyn. Of course, that is erroneous. We have a different attitude among physicians, and it impacts upon the system.

MRS. ANNE SCITOVSKY: I have only limited experience with PSROs, but I think you must have had an exceptionally good one. I know of a PSRO that stated that one of its purposes was ". . . to endorse current methods of medical practice." It makes me wonder whether what we are going to get is no reduction in costs whatsoever but a freezing of present methods of treatment with no evaluation of their effectiveness.

DR. PLATT: Let me state categorically that that is not written into the program. If it is written into an individual PSRO's application, it is very uncommon.

DR. GERTMAN: I think part of the concern about freezing medical practice is one of the "red herrings" that has been thrown across the PSRO scene. Although theoretically it could happen, it is hard to get the PSRO even to worry about length-of-stay standards right now in most areas of the country.

I want to go back to what Dr. Schweitzer was implying when he asked about the tradeoff in hospital days for nursing home days. I think in places where there are good nonhospital alternatives, there are going to be higher costs, particularly if there is good nursing home care, often because the total number of people and length of life are increasing. If, however, people are placed in substandard nursing homes in the United States, there will be high mortality rates in the first year—on the order in some places of 30 and 40 percent in the first 6 months after hospital discharge; thus, nonhospital costs may appear relatively lower.

DR. ANDERSON: Do you mean they would live longer if they remained in the hospital?

DR. GERTMAN: No. They would live longer if they got back to their homes, as in Denmark. Hospitals, after a while, are dangerous places for older, disabled people who do not need hospital care.

For policy purposes, when you take a look at the numerator—the costs that you will incur by the development of alternative programs—you need as a denominator some type of measure of additional years of quality life to obtain cost-benefit ratios.

DR. JANE RECORD: First, in the absence of any very objective indicators of quality, can PSROs do more than just set normative kinds of standards? Perhaps those standards would be a step up from where we are now, but that proposition is yet to be demonstrated—and I am leaving aside for the moment the net effect on costs.

Second, you mentioned that we do not need PSROs to deal with the fraudulent and the incompetent. I would like to ask whether, given our past experience with the profession, you would have much confidence that the profession voluntarily would deal with this type of practitioner.

DR. PLATT: Well, first let us address the second question. It is not that we do not need PSROs to deal with them; we do not need PSROs to *identify* them. We can make definite use of PSROs in handling the situation, in developing whatever data base we need in order to pursue "defrocking" of the fraudulent doctor or criminal activity, or whatever you want to call it. PSROs are a very good mechanism for that. It is not that we have not known about the fraudulent doctor; it is that we have been unable to document adequately his aberrant practice in order to stand up in court legally, and we constantly are challenged when we try to "defrock" a doctor. Frankly, it is the law of the land that has hampered us in removing some of the fraudulent physicians, not the professional intent.

With reference to your first question, granted we do not know exactly how to measure quality, whether it should be measured by process or outcomes or a combination of the two. We do not have good yardsticks. It is possible technically, I think, to develop good yardsticks, at least to raise the question, if not to answer it, as to what is a good pattern of practice, what is a good standard of care, or what is a reasonable outcome. It is difficult because there are differences of opinion. You can use the 100 percent versus the zero percent, or you can use all stages in between. You can use process and outcomes or all stages of both.

But I think it is technically and professionally possible to come up with good, normative yardsticks of what is acceptable care, not optimal.

Dr. Record: The difference is important. Are we going to be satisfied with some sort of minimally acceptable, normative standard, or are we going to try for *optimal* care? You see, even if we use the minimally acceptable standard, I do not think anybody knows whether this will raise or lower costs. We may have to spend more on bringing people up to this standard than we are saving on eliminating unneccesary or inappropriate care. That possibility would increase greatly if optimal care were the standard.

Dr. Siegfried Eichhorn: We just finished a survey of use about patients and patients' stays in our acute hospitals. On the average, patients are staying about 17.5 days. We evaluated the patient charts, discussed them with the hospital doctors, and found that approximately 70 percent of all hospital days need normal hospital care (intensive, intermediate, and long-term), 23 percent could have been treated on an outpatient or semi-hospitalized basis, and 7 percent were completely unnecessary. This is largely due to the great supply of hospital beds in Germany.

Dr. Gertman: I would like to ask the economists and planners who are concerned about appropriate utilization how we translate the millions of dollars in capital we have invested in health facilities into a more productive enterprise, instead of something that often functions only 40 hours a week. Is there any way theoretically to do this in an effective manner? Has anybody really tried utilizing Saturdays and Sundays, for example, for a full spectrum of hospital operations?

Normally, for about half the patients in the hospitals, Saturdays and Sundays are very often unproductive and "technically inappropriate." Often departments of radiology and so on are closed by 3:00 p.m. I really think that we should try more often to improve the productivity of the plant as opposed to trying to set regulatory requirements.

DR. BLANPAIN: I understand that for the moment the National Board in Sweden is discussing a kind of prospective review approach. Instead of having utilization review, there should be a prospective approach. The National Board is approaching it from the other end, and I think that is much more effective.

MR. CLAES ÖRTENDAHL: So far, little of this has been put into practice. For certain of the most common diseases, we are trying to make programs, but this is gigantic work. So far we have come only a short way, and I am not sure that we are ready to report that this really works. But there is some optimism.

We have tried also to find an organizational setting in each county where such programs can be used by appointing one chief surgeon in each specialty who would be responsible for training other doctors and surveying other doctors in the medical field and for informing other doctors of things that happen in the parasurgical field. We call this organization a "block." We have some experience now, and so far it has not affected the length of stay very much. But the quality of work in some parts of the smaller counties may have increased as a result of this reorganization.

DR. PLATT: I would like to make one comment on physician acceptability. Dr. Reinhardt said that the American Medical Association (AMA) is a "pussycat" compared to European medical associations. I am a delegate to the AMA, and I hate to disillusion you, but it is not a pussycat. It is a defanged tiger, if you wish.

But at any rate, to show you the differences in attitudes of physician communities, the opposition of the medical profession to PSRO programs is oriented more to a concern over a cookbook medicine approach. You are suggesting that the opposition is to the concept of utilization review, and this is not strictly correct.

DR. TAYLOR: I would like to come back to Dr. Hatcher's presentation, where he looked at physician behavior in normative terms, rather than standard terms and aberrant terms. He reported on the Saskatchewan experience where the numbers of hysterectomies and cholecystectomies were reduced and so on. Was that because they caught up with a few aberrant doctors, or did they just lower the whole average?

Dr. Hatcher: They lowered the whole average. That is the exception. I think the basic pattern of the Canadian claims-based utilization review of physician services, as opposed to hospital utilization review (that is, review of all the physician services rather than only hospital length of stay), has been to look at the aberrant practitioner.

But in addition, with all of the population-based data, some of which I presented, the health insurance authority has been able, independently of the profession and colleges, to look at specially targeted problems, and surgery was selected. Now this country has been doing that, too. McCarthy and Widmer reported recently experience with second opinions for elective surgery.

I did a little study in upstate New York of a population of about a million and looked at two groups of 100,000 each that have very comprehensive insurance and that had surgical rates very similar to the worst in the Canadian provinces. Just the threat or the belief that there was going to be a second opinion led to a drop of about 15 percent in surgical utilization. There was no cost saving from the point of view of hospitalization, only from the point of view of physicians' fees, because the hospital system expanded its services to nonsurgical patients. Surgical patients had been taking about half the days of care. The hospitals provided just as many days of care, despite the reduced surgery, and so Blue Cross did not save anything, but Blue Shield did save something on the fees.

Dr. Anderson: I do not know what the story is in Saskatchewan. Was there really a public scandal approach?

Dr. Hatcher: After 3 years of trying to get the medical profession to move, the Minister gave a speech. The newspapers reported it, and then the profession really started looking at individual doctors' pathology reports and put its finger on the problem, and everybody started behaving differently. I did not think it would last more than a year, but it has lasted 3 years.

The same kinds of things have been done in other areas, too. It is quite possible to do this for lab and X-ray services, but you really have to look at the problem. The profession must have a stake in making it work, in improving care, and in operating more efficiently.

We have the experience of the Ontario Workmen's Compensation Board where they were able to set quality standards for care of compensation patients 30 years ago with remarkable results, and they have always demonstrated that good quality care is inexpensive care. It is much less expensive for a highly qualified surgeon to do the right operation on the seriously injured patient in a very expensive hospital than to let the patient go in turn to half a dozen doctors who do not have sufficient experience or resources, and then try to put together the pieces after the damage has been done.

What I am really arguing for is this: I think the Canadian quality assurance approach is better in that it tries to pick out major problem areas and assemble the data—and then, with the public, the politicians, and the professionals all having a stake in its working, breakthroughs can be made.

But for the PSROs to have every physician and every hospital staff look at every diagnosis and every therapeutic program for every patient and measure it against a standard, strikes me as a tremendous waste of time. If you look at the cost of utilization review which Dr. Platt presented to us, of approximately $17 per review, it would appear that most of the savings in these programs will come through claims review, and not from the professional component.

DR. GERTMAN: There are some recent data coming from an evaluation of the New Mexico Experimental Medical Care Review Organization (EMCRO) performed by the Rand Corporation. Essentially, this study showed that almost all of the savings resulted from eliminating duplicate or overpriced claims and not medical peer review. However, the data did show some positive quality effects. For example, the review cut down the number of injectables. Lincomycin, which is an antibiotic and should be used only in some very circumscribed areas, was the second most widely used outpatient injectable antibiotic in New Mexico, and the medical review really was able to cut down on this pattern of inappropriate use. If programs pick selected areas and go after them, just as you did in Canada for GYN operations, they can be very effective.

I also would like to comment about the criterion issue Dr. Blanpain has raised. Many researchers in this country now feel that we would like to use a criterion approach, but two important methodologic steps or technical breakthroughs are needed. First, we need disease categories which are prognostically homogeneous instead of anatomically homogeneous. We need to group people who will respond to treatment in the same way, which our current diagnostic coding systems do not do. The current one—the ICDA system—tells us a lot about where the heart attack is (it tells you which branch of the coronary arteries is affected), but it does not tell you whether it is the first heart attack or the fifth heart attack. That makes a very important difference in the type of criterion you would apply.

The second thing that we really need is some probabilistic concepts of the marginal utility of information. We have begun to play with this in an informal way with our doctors. What is the probability that if you do the expensive brain scan, the new information will affect your decision making? Many physicians will often admit that it probably does not affect the situation 1 percent of the time. I think we need data like those for use in designing acceptable protocols.

When we have those types of data, we can develop more specific and effective criteria for treatment and diagnosis and, in turn, raise productivity.

DR. SCHWEITZER: I would like to build a bridge for the planning session tomorrow, based on a point that Dr. Platt made.

If one looks at a system where bed supply is a binding constraint—as it is, for instance, in Great Britain—and one attempts utilization review of the form that Dr. Gertman has described where the objective is to shorten length of stay, what one effectively does is to increase the number of available beds. One is thereby increasing the capacity of hospitals, and if there is no other kind of utilization review in place, then one would expect, given that the binding constraint has now been relaxed, higher admission rates and no decrease at all in number of bed-days per thousand individuals. This indicates that if planning and hospital-bed restriction is one's policy, then a utilization review system must be of a broader type than one that focuses only on length of stay.

DR. IRVING LEVESON: I would like to mention a couple of aspects of coordination between utilization review policies and other kinds of policies. First, on the point that Dr. Schweitzer just mentioned, if we restrict the number of acute-care beds, all other things being equal, we will tend to generate pressures for various kinds of formal and informal mechanisms to set priorities in admitting and treating patients.

But the experience has been that the actual amount of priority assignment that takes place when the supply of beds alone is reduced is relatively small compared to the amount we would like ideally, based on utilization standards and on systems that we consider relatively efficient.

The way to deal with this problem is to reduce the number of beds and to institute utilization review systems simultaneously, so that the combination can produce a much better chance that patients will get the kinds of services that they need most, and that patients who can wait or be handled outside of the hospital will not take up beds that others could use.

Another aspect of coordination is the interface with the financial area. We heard reference to cases where financial incentives lead to inefficiency, but it is also possible to structure financial incentives deliberately to provide benefits. I would like to give a couple of examples.

The Belgian situation was mentioned, in which there is a kind of certification in which everybody fills out forms. It is just lots of paperwork that does not mean anything. That is unfortunately what utilization review has meant in a great many cases.

Another approach is possible. If we believe that excessive length of stay is the problem, one could penalize hospitals financially for excessive length of stay in the aggregate. One could say that a hospital can have only 2 percent of its patients with lengths of stay above 20 days, and everything above that will be reimbursed only at half the rate, or something like that. We would not tell the hospital what to do patient by patient, or look over the physician's shoulder, but instead would say that to avoid financial penalty, the hospital itself would have to worry about who needs the care and how to reduce the length of stay.

I think that kind of policy would have a substantial impact on length of stay. We had something like that in Phase IV of the Economic Stabilization Program where, at the very least, we said to a hospital, "We understand that the first part of a hospital stay costs more than the later days, so if you have a 10 percent reduction in the length of stay, we will reduce your reimbursement by 6 percent." That at least meant that a hospital that wanted to reduce its length of stay without pressure was not penalized financially. That sort of system can have a significant effect in allowing hospital administrators who would like to go ahead with utilization review systems to find them acceptable.

I have one more example of reimbursement approaches. In October 1975 the Massachusetts Eye and Ear Hospital, with 180 beds, established what, to my knowledge, is the first full-scale, unit-cost system in the country that is actually being used as a basis for reimbursement (for Blue Cross, though not yet for Medicare and Medicaid). They have costed out in great detail a whole series of procedures—so much nursing time and costs for different types of cases, so much of pharmacy and X-ray, and so on—and can tell for every patient for every day in that hospital what the incremental cost of treatment are.

A unit-cost system lets you decide patient by patient if it costs more to keep a patient in a nursing home than a hospital. One of the problems with the aggregate data we usually use is that patients require different mixes of service. If you have a real marginal cost-pricing system, you are paid for your true fixed costs. You know the real incremental costs, and can compare patients, and you do not lose part of your overhead when patients are shifted to lower levels of care. Doctors and administrators can worry more about patients from a medical point of view rather than playing the reimbursement game.

These are just a couple of examples. Use of reimbursement approaches obviously depends on the objectives. These examples are easy because they are related to length of stay. But there is a whole series of ways from which we can construct reimbursement policies that will encourage the same kinds of results we want from the utilization review systems and will lead to the utilization review's being accepted more readily and relied on once it is put in place.

Dr. Groot: I should mention that some years ago Holland had a guideline for fixing hospital tariffs that required the occupancy rate to be 90 percent. Then we dropped this regulation because we feared that patients would be kept in the hospitals to meet this 90 percent requirement. Now we have a new policy: if occupancy falls back to 85 percent, the hospital gets cost reimbursement on the basis of 90 percent, and if occupancy goes below 85 percent, the hospital has to contain costs, maybe by reducing the number of beds (for example, closing a department of the hospital).

But what puzzles me is that if you want to make a cost evaluation of patient treatment, you have to design special cost studies, because the cost of services provided is dependent upon the occupancy rate. You should make these cost estimates in such a way that you can see in which way you can influence total costs. This is a very difficult problem, especially for departments that have heavy overhead, such as radiation.

I believe in this respect you should not use cost figures but only quantity figures and try to find out what is the influence of diminishing the quantity (average length of stay/total costs) so you may take the necessary measures.

Dr. Shlomo Barnoon: It seems to me that the utilization review aspect and its effect upon costs·is questionable because the cost distribution over days is heavy at first and lower at the end. If we cut some days at the end, we are not eliminating much of the cost. If the bed is not occupied, the cost to the hospital is still substantial.

An empty bed costs approximately 70 percent of the total cost of an occupied bed. That means that we are not saving very much. If we take the figures that were presented here on utilization review, Dr. Gertman said that a reviewed case cost him $14, and that they were able to save something like 200 days per 1000, so he came up with a figure of over $1.8 million cost for the review and $6.8 million for savings. The savings that he calculated were on the rate per day. But that is not what he was saving, because he was saving, at the most, 30 percent of this daily rate, which means that the review and the savings were just about the same. I am therefore wondering whether there was really any impact on cost.

Dr. Gertman: As I tried to bring out, I think when you first cut the fat out of the system, what is easily cut out, basically, is sloppiness by physicians. That is the major problem in utilization that we can readily deal with. For example, they are sloppy about checking the patient 4 days after surgery and seeing if the wound healed properly, instead of checking on the third day and discharging the patient.

But beyond this simple efficiency the cost savings are going to be very minimal from any of the types of review procedures—except that they do produce, I think, what Dr. Reinhardt was asking about in his third macrohypothesis. They do increase the "accountability" of what we are doing.

Even if we do not change the net dollars, we can tell the public and the government that what they are paying for is necessary and appropriate. I think there is some value to be able to lay out publicly what we are doing and say, yes, you are getting fair value. You may not save anything, but at least you are sure of what you are getting.

I would like to mention one other thing that I think Dr. Leveson brought out about the unit-price approach that the Massachusetts Eye and Ear Hospital is implementing. At least in the United States, and probably in most of the countries, we have another public tax. It is known as the cost subsidy between cases. That is what the Massachusetts Eye and Ear system is exposing. We tax people who are less sick to pay for those who are more sick. In fact, this is our biggest health tax on the public in many areas of the country.

A lot of places have started to look at this sort of unit pricing because of the publicity. When, however, we start to come out with subsidy figures of $800, $900, or $1,000 a day for our cancer patients, when we develop those types of measurements some of us are very afraid of what the implications are going to be.

Dr. Leveson: I do not know that I would call that subsidy a tax. We always have the option of continuing the present system of transferring money from the well to the sick in health insurance systems, and I suspect we will continue to do that. I think there are a couple of other answers. I agree with what Dr. Gertman said, but I would go further.

First of all, if you have a unit pricing system, you do not have to deal with issues like this in the aggregate. That is, the cost of the 10th day in a hospital might not be so different from that in the average long-term care facility, but for some patients it may be a lot higher, and for some it may be a lot lower. There are different prices for different long-term care facilities. So you build in an ability to allocate resources with some recognition of costs. And you do not know enough about the distribution of costs among patients and institutions beforehand to say that those savings are not large.

Second, when we talk about reducing length of stay, we tend to think about doing so for a patient who is already in the hospital. But part of the reduction comes from not admitting long-staying cases in the first place. If you think of all the workups and ancillary services performed during the initial days of the stay, it is possible that we could have some significant cost savings in those services too.

I think these are the kinds of things that we are not going to find out about without trying a little harder.

Dr. Gertman: The biggest offender, by the way, is Medicare. To go into a Level 1 nursing home, a patient must first be admitted to an acute hospital facility for a minimum of 3 days, if it is within 6 months of a prior nursing home admission. What happens, particularly in municipal hospitals, is that the patients are admitted, theoretically for 3 days, but then remain for 2 weeks, a month, 6 weeks. We may create substantial amounts of inappropriate utilization, all because of a requirement of our government about use of extended care facilities.

DR. BARNOON: It seems to me that in the Israeli scene utilization review will be very effective because in Israel we have a very high demand relative to a short supply of beds. Some departments are running at an occupancy rate of over 100 percent by placing beds in the corridors.

In such a situation, where the demand is high and supply is short, utilization review is meaningful, because cutting down on the fat may make the use of the facility a little more comfortable for all patients.

DR. HATCHER: I wanted to speak to the concern that an empty hospital bed is costing money anyway. It is only costing you the loss on your invested capital if it is not staffed. A good administrator in an institution of any size will anticipate empty beds and reduce staff.

Ontario has beds that are not open. The system will find a way of sneaking somebody back in and collecting payment if you have this per diem reimbursement arrangement. But if you are working on a fixed budget that is looked at for the entire year, there is a substantial cost savings in not opening the bed and not staffing it.

I would suggest that there is one other area we need to look at. We have looked at surgery, and we know that we can save perhaps a quarter of our days of care in surgery. People would be healthier if we did not have the levels of surgery we have in many parts of the United States and Canada.

The other area is in primary, or first contact, or family physician care, and this is related to the current excess volume of diagnostic procedures, often duplicated in physicians' offices and hospitals. We need to examine the cost effectiveness of providing primary care by a specialist or aggregation of them, by a general practitioner, by a nurse, etc. Canadian medical care insurance data offer this opportunity.

PART V

THE ROLE OF HEALTH PLANNING

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HEALTH PLANNING AND HEALTH CARE COST CONTAINMENT IN DENMARK

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INTRODUCTION

Denmark is a small country with about 5 million inhabitants and with a mixed economy. The total tax bill is about 45 percent of gross national product (GNP). GNP per capita in 1970 was DKr3.15 ($4.73 in United States currency), ranking very high internationally. About 25 percent of GNP today is spent on health and social services. The total health budget, depending on definition, is about 6.5-7.0 percent of GNP, about 90 percent of which is publicly financed.

Like most Western industrialized countries, Denmark has realized an economic growth pattern over the last 15 years, and today is in an economic recession.

Before 1970 the word "planning" was a dirty word in Denmark, one associated with Communist countries. After 1970, planning became a key word as regards both appropriate functioning of public services and cost containment. The usual market forces are active in regulating the private sector of the Danish economy, while planning regulates almost all public activities. Copayment systems are used to a limited extent within the health and social services.

Planning directives relate to (a) regional planning; (b) town planning; (c) external milieu; (d) hospital services; and (e) social services and certain other health services.

RECENT REFORMS

In 1970 Denmark's political administration was restructured. There are now three political levels: (1) state; (2) counties, [16] that spend 55 percent of their budgets on hospital services; and (3) communities [277] that are responsible for most social services and certain health services.

The 1970 reform was a "decentralized centralization," transferring responsibility and some services from state to counties and communities; while centralizing small communities (under 1,000 population) to larger communities—for example, hospital services from communities to counties—and placing planning responsibility on the county, typically with 250,000 inhabitants. The reform tended to create more rational planning areas and to increase democratic participation in local affairs.

Financial reforms have followed the political-administrative reform and fulfill the idea: those political bodies making decisions pay for them, regulated by national planning laws and national economic policy.

The 1970 reform also induced changes in health services. In that year a new hospital law was introduced (to be discussed later), and in 1973 a compulsory tax was levied to finance National Health Insurance covering most health services outside hospitals. In 1973–74, maternal and child care laws and school health laws were changed from "automatic visits" to a mix of reduced automatic visits and need. In 1976, a completely new social welfare law simplified administration and changed services. Reforms related to external milieu and occupational milieu have been introduced, as well as other reforms.

The basic political ideas behind the reforms in the current decade have been (1) cost containment of public sectors; (2) rational planning; (3) more democratic decisions; (4) better services for the same expenditure; (5) greater prevention; and (6) better quality of life. The present recession tends to reduce political ideas to cost containment problems.

SOME CHARACTERISTICS OF THE DANISH HEALTH CARE SYSTEM

The Danish health care system is regulated by national laws. In principle, the county is the political body responsible for proper functioning of all health services. The county owns and plans hospital services, which are free to the citizens and financed through taxes.

The communities are responsible for almost all social services (pensions, rehabilitation services, and institutions for children and for the elderly) and for children's dental care, visiting pediatric care, school health, home aid, and so on. These health services also are free and financed through taxes.

The following health professionals are not public servants (see Fig. 1): (1) general practitioners (GP); (2) full-time specialists outside hospitals; and (3) dentists (except children's dentists). Most of these services are paid through the tax-financed National Health Insurance (NHI). The steering mechanism for their operation and economy is an agreement between the public and the appropriate professional union. After a conflict between the GPs' union and public authorities lasting 4 months, the more liberal system was ended in April 1976, and resulted in (a) regional limitation of total number of GPs (1 per 1200 group I members); and (b) public planning of the geographical distribution of GPs. Because the income of GPs is based on a mix of capitation and fee-for-service payment systems, this arrangement was necessary to control total NHI expenditures (and at the same time to protect the income of GPs). A more or less corresponding system is expected soon for specialists outside hospitals and for dentists.

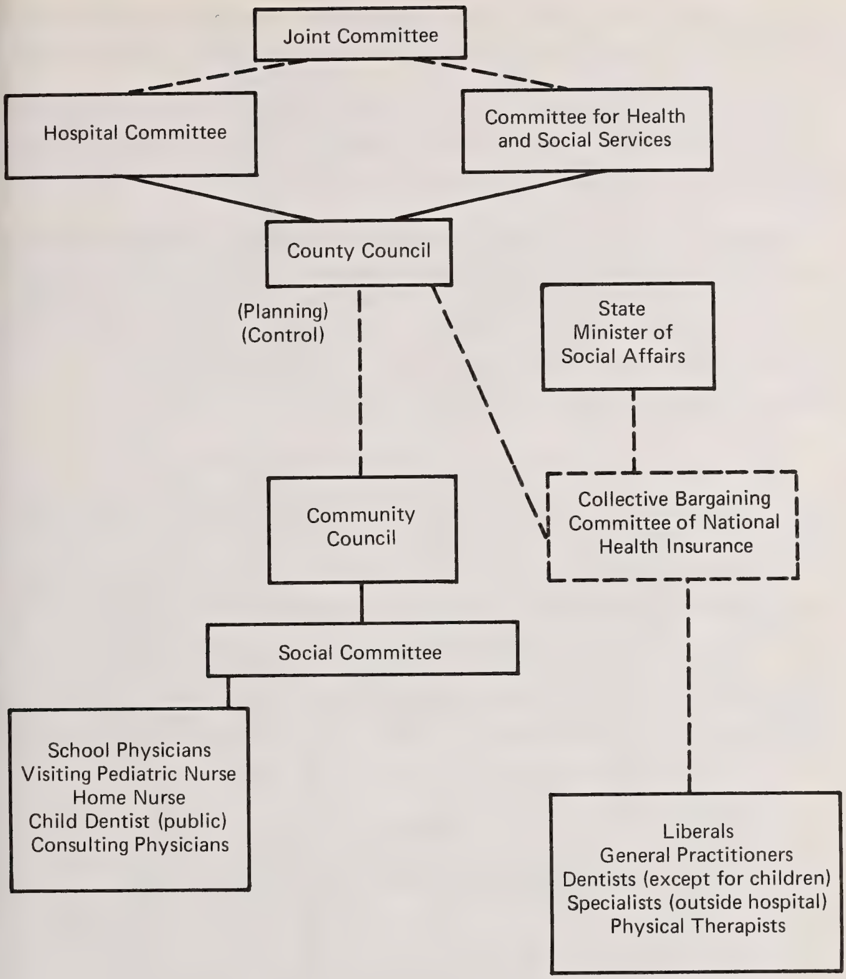

Figure 1. Some organizational structures of the Danish health care system.

The final steps toward overall county-based health planning have been taken, and cost control through regulation of functions and limiting the total health budget is about to be accomplished.

Further important characteristics of the Danish health care system are:

1. The GPs have been considered the key to health services for the last 50–75 years, and public as well as professional policy has supported this idea. Today, GPs take care of 80–90 percent of all illnesses and refer to health professionals, health care institutions, and social services. In this way, GPs ration the demand for most medical care. However, access to a GP is free, the patient choosing his own GP once a year. The 10 percent

of the population who wish complete freedom of choice of their GP all year (so-called Group II members) are reimbursed partly through NHI.

2. Most specialists are public servants in hospitals.
3. The price mechanism is active—through copayment—as regards (a) prescribed drugs; (b) dental services (except for children); and (c) the services of GPs and specialists outside hospitals for group II members of NHI.
4. Health services are becoming more coordinated and integrated with social services. One talks now about the primary health and social team.
5. There exists a clear tendency to understand the interrelationship between socioeconomic conditions and health, and to plan for decreasing the demand for health services by regulating other sectors (traffic, external milieu, occupational milieu, and so on).

AN EXAMPLE: HOSPITAL PLANNING

First, here are a few theoretical considerations. Steering mechanisms or regulation devices may be grouped according to Table 1, the main groups being finances, directives, agreements with health professions, and informal mechanisms. One may group health care systems according to dominant steering mechanism, but the important point here is that cost containment usually requires application of a combination of devices—an important one being health planning directives. Most mechanisms in Table 1 have been used to regulate

TABLE 1

SOME FUNDAMENTAL STEERING MECHANISMS

Financial
  Tax
  Subsidy from state (lump sum, activity oriented)
  Consumer prices
  Health insurance

Directives (public, intercollegiate)
  Related to overall planning
  Related to education
  Related to functions of health professions

Agreements with Health Professions
  Related to wages, salary, and other job conditions
  Related to forms of employment (public, private)

Informal Mechanisms
  Dominating concept of health and disease
  Career structures

TABLE 2

HOSPITAL LAWS IN DENMARK

	Before 4/1/70	4/1/70–3/31/75	4/1/75–3/31/76	4/1/76
Owner	Somatic hospitals: communities	Somatic hospitals: counties →	→	All hospital services: counties
	Psychiatric hospitals: state →	→	→	
Number of hospital counties/ communities	About 100	16 →	→	→
Service area (population)	Varying Average: 20,000–30,000	County services: 250,000 Regional services: 1,000,000 →	→	→
State subsidy to operating expenditures	About 2/3 (rest: local tax, health insurance)	About 1/3 (rest: county tax)	Lump sum subsidy to all county activities (rest: county tax) →	→
Planning directives	No	Yes →	→	→

1970: Political-administrative reform. State, county, community. Planning laws.
1970: New hospital law. Planning.
1973: Tax-financed NHI (primary health care). Group I (80%): free services. Group II (20%): copayment.
1976: Social reform (integrating social welfare services). Planning.
1976: NHI reform. Free choice between Group I (now 90%) and Group II (10%).
1976: Geographic planning of GP's locations, regional limitation of number of GPs.

hospital services in Denmark (hospital services have been a public matter since about 1800).

Table 2 illustrates some 10 years of development: (1) The number of owners of hospitals has been reduced and all hospital services have been placed politically in the county. (2) Service areas have been defined for various services. (3) State subsidy has been reduced gradually and today is a lump sum to each county to establish the principle of financial neutrality between various activities (for example, allowing substitution between a geriatric ward in a hospital and a home for the aged outside the hospital). The lump sum to the county also redistributes tax money between poorer and richer counties. (4) Planning directives for county hospitals have been issued (see Table 3).

In April 1976 the Danish minister responsible for hospital services issued "Directives for Cost Containment of Hospital Services." The directives were developed with the hospital owners, i.e., the counties, which are not obliged to carry out cost containment, but are urged to do so. The Danish Medical Association has supported the directives.

TABLE 3

DIRECTIVES FOR COUNTY HOSPITAL PLANNING IN DENMARK (1971)

1. All counties prepare a 15-year plan for all hospital activities. The first 5 years must be planned in detail.
2. The plan is finally approved by the Minister of the Interior, having first been recommended by the National Hospital Council.
3. Service areas are defined. Specialties for approximately 250,000 inhabitants include anesthesiology; child psychiatry; dermatology; venereology; radiology; physical rehabilitation; internal medicine (including cardiology); microbiology; clinical physiology; clinical chemistry; long-term medicine; medical lung diseases; medical ophthalmology; neuromedicine; obstetrics and gynecology; orthopedic surgery; ear, nose, and throat diseases; pathological anatomy; parenchyma surgery; psychiatry; and pediatrics. Specialties for 1 million inhabitants (regional hospitals) include child surgery; cardiology laboratory; endocrinology; hepatology; hematology; hand surgery; infectious diseases; vascular surgery; surgical gastroenterology; surgical ophthalmology; transplantation serology; clinical pharmacology; clinical immunology; clinical neurophysiology; clinical virology; medical gastroenterology; nephrology; neurosurgery; nuclear medicine; plastic surgery; rheumatology; chest surgery; tropical medicine, and urology.
4. Existing hospitals are integrated functionally.
5. Larger investments, especially those related to continued specialization, are concentrated in the county hospital, while smaller hospitals stop functioning or are transformed to long-term care institutions.
6. The plan should include psychiatry.
7. The plan is coordinated with related health and social activities.
8. The Minister of the Interior approves hospital construction.
9. Economic and personnel resources are specified in plan.

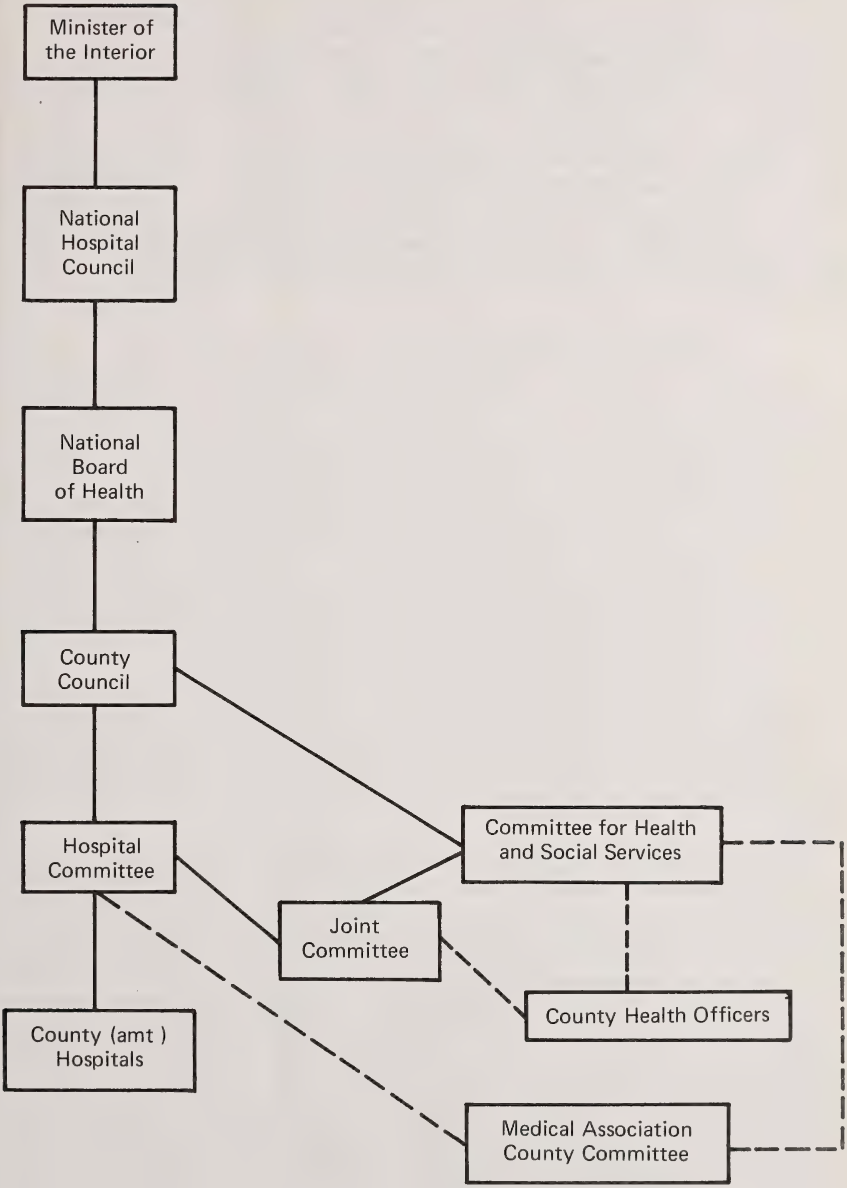

Figure 2. Major bodies for hospital planning.

According to the directives, a reduction in real growth from 3–4 to 2–3 percent per year is recommended for the short run (2-year period). This is obtained by limiting the total county hospital budget. Analytical and advisory committees comprising administrators and health professionals are to be established in the cost containment process (distributional aspects).

In the long run, hospital planning is considered the appropriate instrument for functioning and cost containment. The major bodies for hospital planning are shown in Figure 2. Almost all counties have worked out a 5-year plan. The responsible minister already has intervened in some county plans to insure cost containment.

OTHER EFFORTS TO CONTROL COSTS

As regards planning of community health services, a law entitled "Steering of Social and Certain Health Matters" requires each community to plan for a 5-year period and to revise the plan every year. An annual national accounting of community resources for health care and social welfare is part of the information system that supports the plans. The community plans are coordinated by the county council, thereby coordinating primary health care activities with hospital services. The Minister of Social Affairs may intervene in the plan; he also issues planning directives. Directives for cost containment of social services provided to old people were issued in April 1976—a parallel to the hospital cost containment directive.

In 1973 and 1975 the method of reimbursement for prescribed drugs was changed. The 1973 experience showed a 15 percent reduction in public spending on drugs and a change in the drug consumption pattern.

Denmark has established two so-called "perspective plans"—broad, national economic analysis and sector analysis for the next 15 years. After a debate in Parliament, the Danish government appointed a priority committee for health services in 1974. Politicians, administrators, and other experts serve on this committee, whose work is expected to end this year. Today it appears that the fundamental principles for future development will be: (1) to control and decrease real growth of the health care sector; (2) to stop hospital expansion; (3) to increase primary health care services; and (4) to increase preventive efforts both within the health care sector and in sectors initiating demand for health services.

The recommendations of the priority committee probably will be the basis for establishing a workable health policy in Denmark—not piecemeal, but through a carefully planned health policy.

CONCLUDING REMARKS

In Denmark there is a general wish to control the total health budget, and especially to improve distribution of the total budget.

Basic planning laws and directives exist in Denmark today, although certain groups of health personnel are less regulated than others and although planning was first introduced in Denmark in about 1970.

There is no doubt that in the years ahead, health planning will be the instrument not only for cost control but also for a better allocation of total health care resources. The process began in 1970; strict cost control activities began to be effective about 1975; and the comprehensive planning approach is expected to begin influencing health services in 1977.

Those who are interested in further details of the Danish health care system are referred to some selected, unnumbered tables and figures in the appendix.

APPENDIX

Health Costs as a Percent of GNP

	1960-61	1970-71
Indirect (public) expenditures	3.0	4.9
Direct (consumer) expenditures	0.9	0.8
Total expenditures	3.9	5.7

Operating Expenses of the Danish Health Care System, Fiscal Years 1960-61 and 1970-71

	1960-61		1970-71		
Type of Expenditure	Million DKr	% of total	Million DKr	% of total	Percent Increase
Health insurance excluding sickness benefits, including primary care and subsidies for drugs	388	30	1,456	24	14
Public health including public health physicians	30	2	109	2	17
Public hospitals including mental hospitals	748	58	3,694	62	17
Dental care	50	4	340	6	21
Prenatal and delivery care, preventive services for children, school health care	40	3	115	2	11
Rehabilitation care	33	3	227	4	24
Total indirect (public) health expenditures	1,289(77)	100	5,941(85)	100	17
Total direct (consumer-paid) health expenditures	375(23)		1,015(15)		10
Total health expenditures	1,664(100)		6,956(100)		16
GNP	44,430		127,047		11

The Health Team in Primary Care (Averages for a Typical Danish Community of 10,000 Inhabitants, at the Beginning of 1970)

Age of Inhabitants	Percent
0–14	23
15–64	64
65+	13

Staff	Number	Utilization
General practitioners	4–5 (+ help)	40,000 visits per year (60,000 contacts); 1,500 school health checks
Visiting pediatric nurses	2	1,500 visits to babies
Home nurses	4	9,300 home visits
Midwife	1	750 visits (150 deliveries in institutions/hospitals)
Pharmacy	1	30,000 visits for prescribed drugs
Dentists	7 (+ help)	10,000 visits
Specialists outside hospital	—	2,600 visits
Hospital admissions	—	1,500

Health Manpower in Denmark: Prospective Plan for 1987 (Full-time positions)

	1972	Annual Growth 1966–72 %	1987	Annual Growth %
Primary Health Care				
Medical practice				
Doctors	2,500		5,000	
Others	1,500		5,000	
Total	4,000	0.0	10,000	6.3
Dental practice				
Dentists	3,500		5,100	
Others	3,800		6,100	
Total	7,300	5.6	11,200	2.9
Pharmacies				
Pharmacists	1,400		1,600	
Others	3,900		5,300	
Total	5,300	3.0	6,900	1.8
Outgoing service	4,700	3.2	6,200	1.9
Physical therapists, midwives, visiting pediatric nurses, home nurses, others				
Total primary health care	21,300	2.6	34,300	3.2
Hospitals				
Doctors	4,300		5,300	
Others	69,500		82,100	
Total	73,800	6.5	87,400	1.1
Total Health Care	95,000	5.5	121,700	1.7

Assumptions of government prospective plan

1. Restrictive hospital policy over the next 15 years (86 beds per 10,000 population, unchanged structure of activities)
2. Increase in number of general practitioners from about 1 per 2200 inhabitants in 1972 to 1 per 1500 inhabitants in 1987.

Physicians in Denmark

Main activity	1960	1970	1974
Hospital	2,550	3,625	5,100
General practitioner	2,100	2,100	2,450
Specialist outside hospital	350	375	450
Others	525	825	1,025
Total	5,525	6,925	9,025

1974: 1 physician per 550 inhabitants; 1 general practitioner per 2050 inhabitants.

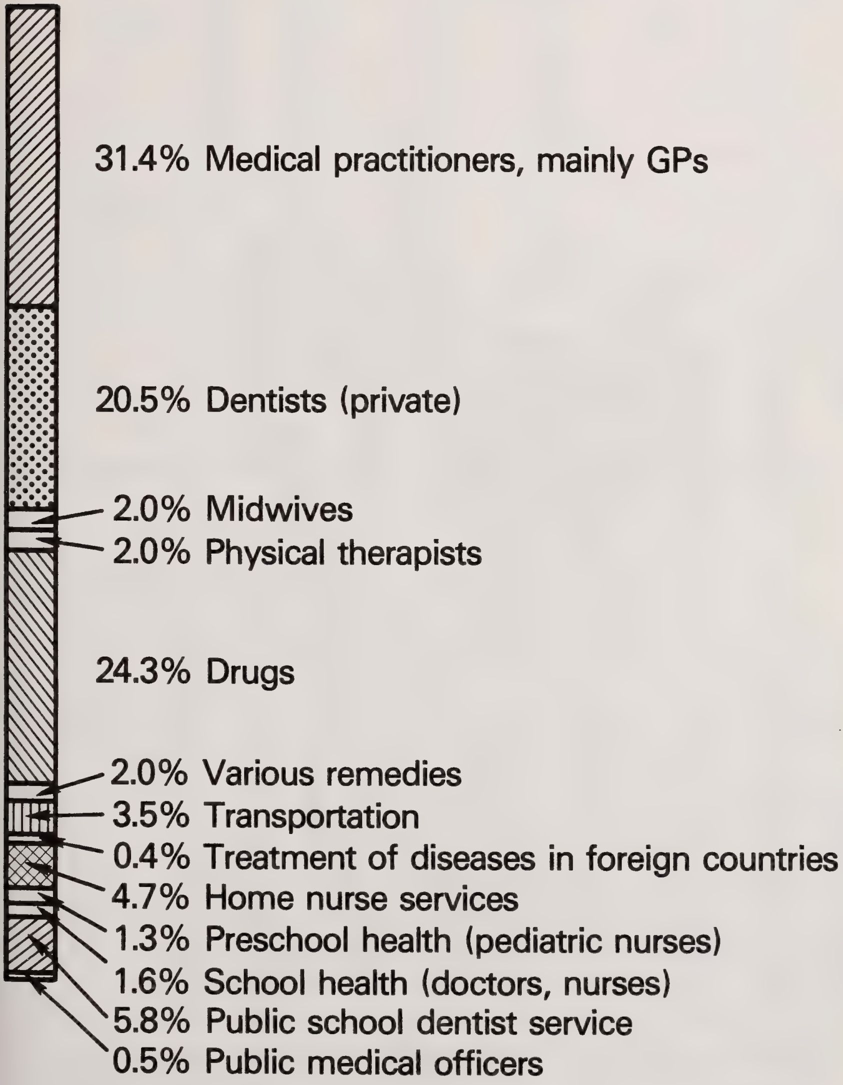

Figure A-1. Distribution of public and private expenditures for primary health care in a Danish county, 1970–71.

Public Expenditures for Hospitals and National Health Insurance in Denmark, 1974-75 [Danish kroner per inhabitant, by county (amt)]

Area	Hospitals	National Health Insurance	Total	Percent of Population Ages 65 or Over	Percent of Population Ages 65 or Over in Homes for Elderly
Copenhagen	2,170	530	2,700	15	5.3
Frederiksborg amt	1,330	450	1,780	9	9.0
Roskilde amt	1,150	420	1,570	8	8.4
Gr. Copenhagen total	1,930	500	2,430	13	5.8
Vestjaellands amt	1,570	430	2,000	14	7.1
Storstroms amt	1,320	450	1,770	16	8.5
Bornholms amt	1,570	450	2,020	15	7.2
Fyns amt	1,240	460	1,700	14	5.8
Sonderjyllands amt	1,000	430	1,430	13	5.5
Ribe amt	1,160	410	1,570	12	7.1
Vejle amt	1,180	450	1,630	13	6.6
Ringkobing amt	1,170	410	1,580	11	9.9
Arhus amt	1,260	460	1,720	12	7.4
Viborg amt	1,400	420	1,820	14	8.2
Nordjyllands amt	1,250	430	1,680	13	6.9
Outside Gr. Copenhagen total	1,260	440	1,700	13	7.1
All Denmark	1,490	460	1,950	13	6.7

Length of Stay and Patients Admitted to Somatic Hospitals in Denmark, 1974-75, by County (amt)

	Bed days per inhabitant			Patients admitted per 1000 inhabitants			Average length of stay
Area	Regional Hospitals	County Hospitals	Total	Regional Hospitals	County Hospitals	Total	Days
Copenhagen	0.3	1.8	2.1	22	194	216	9.7
Frederiksborg amt	0.3	1.3	1.6	17	125	142	11.2
Roskilde amt	0.2	1.0	1.2	15	127	142	8.4
Gr. Copenhagen total	0.2	1.7	1.9	20	176	196	9.6
Vestjaellands amt	0.2	1.9	2.1	12	157	169	12.4
Storstroms amt	0.2	1.8	2.0	10	167	177	10.0
Bornholms amt	0.3	2.0	2.3	19	148	167	13.8
Fyns amt	0.1	1.7	1.8	7	155	162	11.1
Sonderjyllands amt	—	1.3	1.3	5	125	130	10.0
Ribe amt	0.1	1.4	1.5	6	146	152	9.9
Vejle amt	0.1	1.8	1.9	6	158	164	11.6
Ringkobing amt	0.1	1.4	1.5	5	147	152	9.9
Arhus amt	0.1	1.5	1.6	10	144	154	10.4
Viborg amt	0.1	1.6	1.7	6	149	155	11.0
Nordjyllands amt	0.1	1.6	1.7	6	142	148	10.9
Outside Gr. Copenhagen total	0.1	1.6	1.7	7	149	156	10.9
All Denmark	0.2	1.6	1.8	12	160	172	10.5

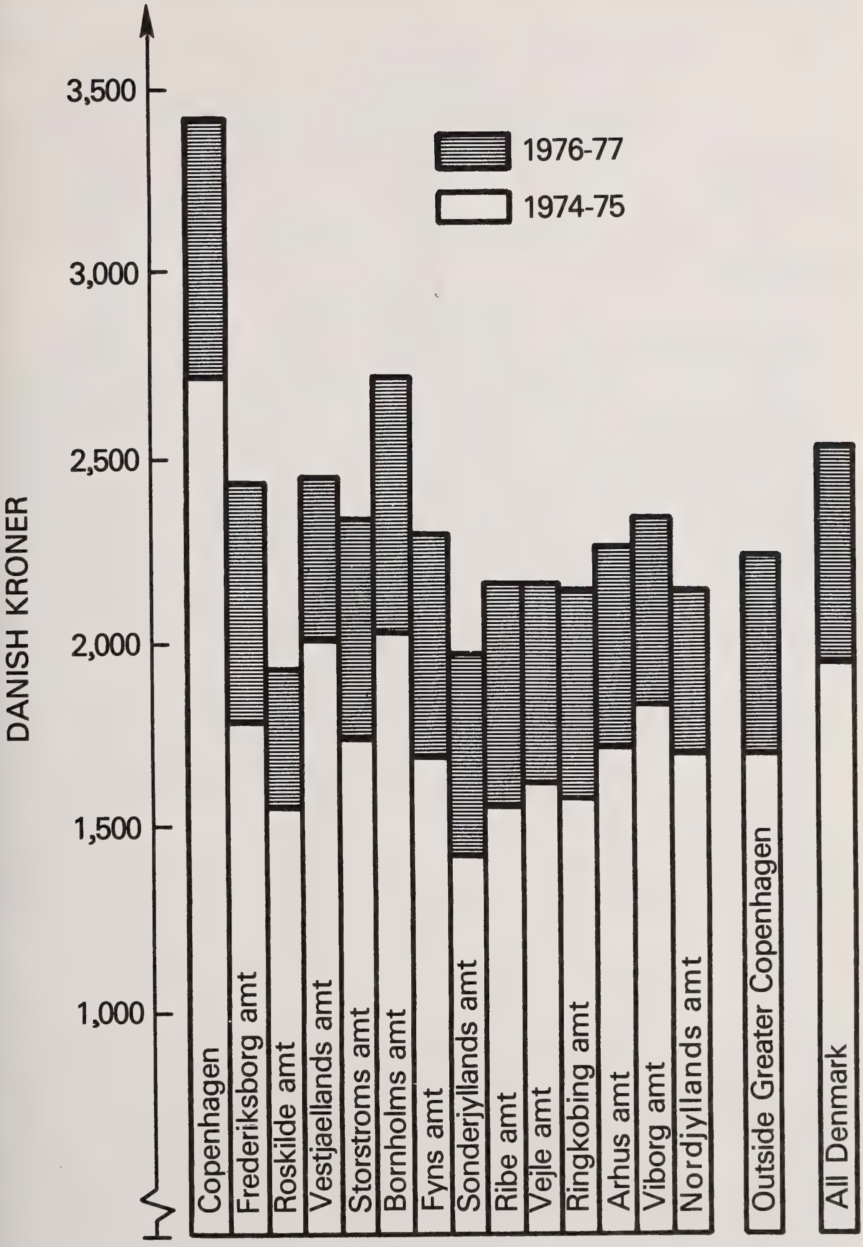

Figure A-2. Total public expenditures for health services by county.

Mortality and Incidence of Disability Pensions in Denmark, 1974-75, by County (amt)

Area	Mortality Age-Standardized per 1000 Inhabitants	New Disability Pensions per 1000 Inhabitants
Copenhagen	ca. 11	3.01
Fredriksborg amt	10.5	1.69
Roskilde amt	10.0	1.81
Gr. Copenhagen total	ca. 11	2.66
Vestsjaellands amt	9.9	2.40
Storstroms amt	10.1	2.65
Bornholms amt	9.8	2.67
Fyns amt	9.9	2.67
Sonderjyllands amt	10.0	1.92
Ribe amt	10.1	2.56
Vejle amt	10.2	2.25
Ringkobing amt	10.2	1.86
Arhus amt	10.3	2.41
Viborg amt	10.1	2.03
Nordjyllands amt	10.0	2.64
Outside Gr. Copenhagen total	ca. 10	2.37
All Denmark	10.3	2.47

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HEALTH CARE PLANNING IN THE UNITED KINGDOM

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INTRODUCTION

During the period since the creation of the National Health Service, the propensity of decision makers in the Department of Health and Social Security deliberately to manipulate policy instruments in an attempt to change the observable present and/or future characteristics of the Service has become more accentuated. We have contracted the American propensity to indulge in program budgeting, and it is quite clear that, particularly with a Labor administration, more active intervention in the health care market is inevitable. Radical planning changes have been articulated already and it is possible that the Royal Commission on the Health Service will serve as a catalyst for further change. I propose to deal with three topics in some detail. Two of these topics are of monetary nature—the hospital revenue allocation and pharmaceutical prices—and the other concerns manpower, in particular the planning of physician manpower. I will deal with the last topic in the first section below, and in the subsequent sections I will examine the other two topics. The remuneration system to attract labor to particular areas will be ignored in this section, as it was covered in Chapter 14. The final section will be concerned with general issues and will attempt also to summarize the preceding sections.

MEDICAL MANPOWER PLANNING

British experience with medical manpower planning has been good in parts. By and large, we have our forecasts hopelessly wrong, but the efficiency of our manipulation of new manpower supply with the aid of net immigration has been such that the wrong targets have been, in global terms, achieved with ease.

In the late 1950s the Willink Committee estimated that there would be a surplus of physicians in the late 1960s and the early 1970s, and recommended a cut back (of 10 percent) in the rate of growth of medical school intake. The basis of their forecasting was defective. They used unique point population estimates and these were too small. They wrongly estimated the brain drain: Abel-Smith and Gales (*1*) estimated that about 25 percent of new graduates were emigrating in the early 1960s. They assumed a static doctor-population ratio and failed to discuss the possibilities of factor substitution in the face of inefficient work practices and changing technology. By 1966 Paige and Jones (*2*) were predicting a physician shortage by 1975 and no surplus in the foreseeable future. The methodology of their work was similar to that of the Willink Committee and can be attacked for similar shortcomings (*3*). The Todd Commission's (*4*) task was to examine the content of medical education as well as the optimal characteristics of the number of people to be subjected to this education. This Commission was so concerned about the potential physician shortage in the 1970s that it wrote to the Secretary of State (in 1966) prior to the completion of its report (in 1968) advising him to expand medical school intakes as rapidly as possible.

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While committees forecast, report, and urge action, outcomes often bear little relation to their work. The supply of hospital physicians has exceeded the planned requirements of the forecasters at every stage. Willink (*5*) forecast 24,484 hospital physicians for 1970 and there were 29,043. Todd (*4*) forecast 31,374 hospital physicians in 1973 and there were 33,048. The supply of general practitioners has at every stage fallen below the requirements of the forecasts. Willink forecast a general practitioner (GP) stock of 25,966 in 1970 and there were 24,458. Todd forecast a GP stock of 28,260 in 1973 and there were 25,580. A cause of the hospital result has been annual average immigration of 3,000 in recent years, which added, on average, an additional 700 annually to the pool of overseas physicians practicing in the United Kingdom. Emigration of U.K. nationals, at about 300 per year, is running at a level in line with Todd's predictions. The supply achievements of the medical schools have fallen below the requirements of the forecasters in most cases. Todd hoped for an annual average of about 3,100 graduates during the period 1965–75. The target achieved was an average in excess of 2,000 per year and the trend is upward but at a steady rate.

The United Kingdom experience with medical manpower planning has not been a happy one. The methodology of the forecasters is crude and has been subjected to detailed and protracted criticism (*3, 6, 7*). More subtle approaches are possible (*8*), and it is hoped that crude doctor-patient based forecasts will be superseded by more sophisticated exercises. The observable effects of bad planning have been particularly noticeable in general practice where cyclical increases in relative scarcity have led to cyclical changes in the position of undoctored areas in particular. The stock of physicians has increased substantially during the last 15 years, but this increase has been channeled into the hospital service: In 1955 there were 20,484 hospital doctors, in 1973 there were 33,048; in 1955 there were 24,216 general practitioners, in 1973 there were 25,580. There is an obvious need for a more careful analysis of these sectoral changes and trends within the context of the manpower forecasts.

THE HOSPITAL REVENUE ALLOCATION FORMULA

For administrative purposes, England is divided into 14 Regional Health Authority (RHA) areas. These authorities are responsible for allocating resources among the constituent subareas of the region, the Area Health Authorities (AHA). The RHA has to follow central government "guidance" and is empowered to "review, challenge and improve AHA plans, and subsequently control AHA performance in relation to agreed plans" (*9*:24-25).

The Area Health Authorities have planning and operational responsibilities. They try to coordinate their activities with local government (via Joint Consultative Committees), particularly with regard to the provision of community social services. They have Family Practitioner Committees (FPCs) covering local areas which regulate and remunerate general practitioners (physicians), dentists, pharmacists, and opticians. The basic unit of the service is the district, which provides about 250,000 people, on average, with community health care supported by the specialist services of the district general hospital.

The ability of these bodies to function is determined in part by resource availability. Since 1948 and until recently, the regional hospital authorities received an annual sum sufficient to maintain existing services (with an allowance to meet cost inflation) together with a margin for special expenditures deemed by the Department of Health as necessary or desirable. During the last 10 years, a hospital building program has been carried forward, with the objective of improving the services capital stock and reducing regional inequities. The building program has been slow and the revenue allocation system tended to enable relatively well-provided areas to maintain their relative advantages, i.e., to maintain pre-1948 inequalities.

In order to mitigate the degree of regional inequity in hospital provision, the Department of Health and Social Security (DHSS) has introduced a hospital revenue allocation scheme. It was implemented in 1971 and revenue was allocated according to three regional indicators: bed stock, case flow, and population until the recent reforms.

The 1971 formula has been analyzed in detail by West (*10*). The population index takes the regional population forecast by age and sex and weights each group by the proportion of national hospital bed-days occupied by individuals in that group. After account has been taken of regional border crossover traffic and teaching hospital activity in the region, the total revenue allocation is divided on the basis of the adjusted population figures. This figure is compared with the current allocation to arrive at the revenue adjustment needed on population grounds (see Table 1 for an example). The revenue adjustment needed on bed-stock grounds is found by estimating the allocation required to finance by speciality, the existing regional bed stock at national average cost, and

TABLE 1

THE HOSPITAL REVENUE FORMULA

1. Total hospital revenue budget	£1500
2. National population	46 million
3. National average cost per bed	£3800
4. National average cost per case	£130
5. Regional allocation in previous period	£150 million
6. Regional population	3.5 million
7. Regional bed stock	35,000
8. Regional case flow	1.1 million

Allocation on population grounds (6)/(2) × (1)

$$= \frac{3.5}{46} \times 1500 = £114$$

Previous allocation (5) = £150

Population adjustment = £150 - £114 = - £36 million

Allocation on bed stock grounds = (7) × (3)

= 35,000 × £3800

= £133,000,000

Previous allocation (5) = £150,000,000

Case flow adjustment = - £17 million

Allocation on case flow grounds = (8) × (4)

= 1.1 × 130

= £143

Previous allocation (5) = £150

Case flow adjustment = - £7 million

Combined adjustment = $^{1}/_{2} \times -£36$ million + $^{1}/_{4} \times -£17$ million + $^{1}/_{4} \times -£7$ million

Combined adjustment = - £24 million

Adjustment in year 1 is 10% of - £24 million = - £2.4 million comparing it with the existing allocation. The cases adjustment takes the regional case flow specialty and multiplies it by national average cost per case to arrive at the cases allocation. The final formula brings the three strands together by weighting the formula by 0.5 the population adjustment, 0.25 the beds adjustment, and 0.25 the cases adjustment (i.e., a quarter of the difference between the actual and the case-cost allocation totals). To avoid short-run changes of a large magnitude, the elimination of the difference is to take place over a 10-year period, with the weights of each year's adjustments increasing (from one-tenth in year 1, to one-ninth in year 2, to one-eight in year 3, etc.). An example, following West (*10*), can be found in Table 1.

One problem which arises from this formula is that it may pursue equity at the cost of efficiency or efficiency at the price of equity. A region, X, may increase its case output without increasing its costs. This region now may have a hospital system which treats more cases per year than an otherwise identical region, Y. The efficient region, by adopting more efficient practices, introduces a new element of horizontal inequity which can be rectified only by reducing resource allocation to region X and an increased allocation to region Y. Such reallocations will make region X worse off and, if foreseen, may inhibit its pursuit of efficiency because efficiency leads to budget reduction. In fact, the present formula gives additional funds to efficient regions (X), thus permitting it to further expand its case flow and the degree of regional inequity. There is a nice equity-efficiency trade off here for the policymaker. The nature of the trade off needs to be clarified by further research into the causes of efficiency variations, however.

The formula can be criticized on other grounds. First, it is partial in that it affects hospital revenue flows only. No attempt has been made yet to plan the family practitioner service (i.e., general practitioners and dentists) or local authority social services. Furthermore, the planning to date, although it may give more resources to regional authorities, does not allow for more positive discrimination (e.g., higher pay) to encourage medical manpower to work in less popular areas, nor does it permit higher payment levels to manpower in relatively scarce specialties. Third, it does not affect resource allocation within regions: Thus interregional variations may be reduced while intraregional variations are unaffected. This defect may be remedied by imminent future developments. However, the DHSS told the Expenditure Committee "the existence of clinical freedeom substantially reduces the ability of the central authority to determine objectives and priorities and to control individual facets of expenditure" [quoted in Cooper (*11*:71)].

In 1975 the DHSS, in an attempt to meet these criticisms reformed the formula (*12*). The hospital revenue formula now consists of the population and caseload elements only in a ration of 3:1. For community care and capital projects a weighted population formula is used. It is clear that clinical freedom or no, the present government is going to continue the pursuit of more efficient and more comprehensive planning mechanisms. In March 1976, the Department leaked the fact that it was contemplating weighting the population element of hospital revenue formula with a morbidity index. This leak seems to have been inspired by a desire to test medical reactions. The departmental committee reviewing the formula will report later this year and only then will we be able to see if the formula has been altered in any way. [The revised formula is more radical and comprehensive than its predecessor (*13*).]

The analysis of all programs is now being carried out within a program budgeting framework (*14*). The purpose of the program is to enable the department to cost developments: "The programme budget is neither a forecast of a plan: it is a way of exploring future strategies for development" (*14*:78). With the two objectives of economy and geographical equity pressing hard on DHSS decision makers, it is possible, indeed probable, that the program will develop into something more substantive, from the planning viewpoint, than a mere financial tool.

PHARMACEUTICAL PRICES

In 1973–74, the National Health Service spent £250 million (8.25 percent of the total budget) on pharmaceutical products. For many years there has been an intense debate about the pharmaceutical industry and the prices which it charges both in the United Kingdom and elsewhere. This debate has created usually more heat than light. However, it has led to an attempt to regulate the industry by using antitrust legislation and the Voluntary Price Regulation Scheme (VPRS), and by attempting to influence prescribing patterns of physicians.

The VPRS was established in 1957 to ensure that "fair and reasonable" prices were charged for the branded equivalents of standard drugs or combinations. The scheme has been revised several times and the current vintage was laid down in 1972. The objective VPRS is to establish a negotiating framework between the DHSS and individual drug companies. All companies with National Health Service (NHS) sales in excess of £750,000 must supply the Department with a standardized financial statement which details sales, costs, and capital in the preceding year. This supplies the DHSS with detailed information about each company's promotion and profit levels. The DHSS scrutinizes these accounts, and can compare prices with foreign markets and similar products. The Office of Health Economics [quoted in Reekie (*15*:103)] estimated that in 1965 the VPRS reduced the industry's profits by £18 million (on total sales of £170 million).

Whether this exercise of monopsonistic power by the DHSS is costless is another matter. The outcome of negotiations depends on the skills of each side. While the expertise of the DHSS appears to be high, that of the industry appears to be uneven. Certainly, the VPRS adds another element of uncertainty for decision makers in an already risky market. There is some evidence that U.K. drug prices are lower than those in many other European markets (*16–18*) but this outcome may be the result of monopsony and/or a complex mix of additional other supply and demand factors (e.g., market size, income, etc.). The industry believes that VPRS is effective in reducing prices and that research and development (R&D) may be affected adversely.

In addition to this policy, the DHSS tries to persuade physicians to use less expensive pharmaceutical products. In 1954 drugs were classified and machinery set up to discourage physicians from prescribing drugs of unproven value and branded equivalents of standard preparations in particular. The "discouragement" took the form of a contract of employment which stipulated that excessive prescription costs would be penalized by salary withholding. Each general practitioner gets an annual statement of his prescription costs together with the local and national average figures. If he is substantially above the average, he may receive a visit from a Regional Medical Officer who will discuss his prescribing with him. According to recent DHSS annual reports, the total number of such visits rarely exceeds 3,000 and salary witholding is rare: In 1972 a physician lost £50 in this way. The Cohen Committee was abolished in 1965 and a new committee was established. Classification and monitoring continued and so has criticism of the committee. It has failed to derive clear guidelines for classification and is accused of propagating the views of particular schools of thought (*15*) whose hypotheses (often like those of its competitors) are not rigorously tested.

The third way in which the state intervenes in the pharmaceutical market is by use of antitrust legislation. The procedure is unusual. The most famous recent case concerned Roche's products Librium and Valium. A critical report by the Monopolies Commission led to an Order (1973) to Roche to reduce Librium's price by 40 percent and Valium's by 25 percent.

Government intervention on the market for pharmaceuticals has been accompanied by vigorous debate. The debate continues about the established practices discussed above and proposed practices put forward by the Labor party in particular. The latter include the partial or total nationalization of the industry's assets and state control of R&D. As the critics of this approach point out, the performance of state pharmaceutical industries in Eastern Europe has not been notable from the point of view of invention and innovation. The debate continues.

CONCLUSION

In 1973 the British government spent over £3,000 million to finance the NHS (4.89 percent of GNP). Its role as the primary, supplier of health care is such that it has had to indulge in a significant degree of planning. In historical terms the surprising thing is that its planning activities were so mute until the last 10 years. For the first two decades of the service (1948–68), resource allocation was carried out on an ad hoc basis and little attempt was made to articulate objectives, relate activities to objectives, and test the efficiency of such activities. At present, the main tools of intervention are manpower remuneration and creation, resource allocation and the control of other input prices, and in particular those of pharmaceutical products.

The use of the manpower instrument is limited by clinical freedom and ignorance about the efficiency of alternative remuneration systems. The more active pursuit of the assessment of the therapeutic value of treatments and the organization of labor and capital to provide treatments might enable us to acquire a clearer picture of the costs and benefits (if any) of present activities. It is possible that this information would reveal the potential for radical reforms and cost savings. No doubt to achieve such reforms, remuneration patterns would have to change, and before such changes take place it is essential to acquire a clearer picture of the effects of alternative payment systems on individual and group behavior. At present we are ignorant about the effects of the various remuneration systems used in Western health care systems (*19*).

The use of the resource allocation mechanism would have to be related to variations in regional efficiency and regional resources. It is clear that our present hospital formula will have to be extended to contend with problems of supplementary (or supplanting) services in the community. This will not be easy because part of these services are under the control of local governments who may be unwilling and unable to perform in a manner which the DHSS regards as optimal. We introduced the NHS in 1948 and reformed it in 1974 to "improve coordination." Yet we still have significant coordination problems.

The control of pharmaceutical prices, like the control of manpower prices, is not costless or easy to administer. Control of the industry is one route to reduced drug bills, but it is possible that greater savings could be obtained by controlling the prescribing habits of the physician more actively.

The key to the planning process is the physician. He is the most powerful decision maker in the health care market, and it is possible that this power is not always used in a manner which leads to effective therapeutic outcomes at minimum cost. The physician is all too often the powerful propagator of unsubstantiated yet powerful views. The dangers of such views are obvious and have been nicely summarized by the *Economist* (July 9, 1969): "If any doubts this (i.e., the dangers of uniformity) let him ask himself why a middle class generation, born between wars, has grown up without its tonsils and its foreskin."

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COST CONTAINMENT: A GOAL OF HEALTH PLANNING

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Health planning may concern the planning of services for a neighborhood, a region, or a nation. National health planning begins with health legislation, which in itself is a plan. This paper presents a short summary of the evolution of health planning in Israel followed by an analysis of the major health planning activities currently underway. The analysis points out a flaw in the process of the planning that is common to most health plans: the separation of planning and evaluation. A number of examples illustrate the need for the integration of the evaluation process into the planning process and show that cost containment should be a goal of every health plan.

The organization of the health care system in Israel today is in most practical aspects identical to that of the system that has been in existence since the state gained its independence in 1948. Health services are provided by the Ministry of Health, a number of *Kupat Holim* (Sick Funds), a number of voluntary community organizations, and private care agencies or individuals. By far, the major part of health services is provided by the Ministry of Health and *Kupat Holim Klalit* (the General Sick Fund serving members of the General Federation of Labor).

Kupat Holim Klalit serves 68 percent of the population. Its services include curative and rehabilitative services through inpatient and outpatient facilities. *Kupat Holim* also supplies its members with needed drugs. No charges are made at the time services are provided. The services are rendered through the fund's network of clinics, hospitals, pharmacies, and health personnel. Whenever the facilities of the fund are not available, it pays other providers for services rendered to its members. The Ministry of Health owns and operates the majority of the hospitals in the country, accounting for 43 percent of all hospital beds. Along with *Kupat Holim Klalit*'s hospitals, the two organizations own and operate 62 percent of all inpatient beds (*1*).

The historical development of the Israeli health care system is described in detail by Margolis (*2*), who emphasizes the sociopolitical arena that influenced the structure of today's health care system. The most important factor affecting this organizational structure is the flux of immigration since 1948. The total population, Jewish and non-Jewish, in 1948 was 873,000; in 1974 this figure stood at 3,409,000, a fourfold increase. The number of hospital beds has increased during that period from 4,626 beds to 23,077 beds: a fivefold increase. In terms of a ratio of beds to thousand population, the increase was from 5.55 beds per 1000 population in 1948 to 6.80 beds per 1000 population in 1974. Most of this increase was not in general acute-care beds, a ratio which increased slightly from 3.21 beds per 1000 population in 1948 to 3.31 beds per 1000 population in 1974. Most of the relative increase was in psychiatric and long-term beds; these increased in the period 1948 to 1974 from 1.44 to 3.50 and from 0.15 to 1.08 beds per 1000 population,

In 1948, the Ministry of Health began its operation with minimal staff and budget. It did not have a declared policy, and its main activity was to coordinate existing services. As the population increased, needs exceeded the supply of services and the Ministry filled in the gaps. Considering the rapid increase in the size of the Ministry of Health and in the scope of its services, it is not surprising that little long-range planning had taken place. In most cases the office had reacted to urgent needs with fast solutions. Despite the operation of a planning office for hospitals and an office for budgetary and economic planning, the impact of planning activities has been noticed only within the last few years.

A similar development has been experienced by *Kupat Holim*. Margolis (*2*) describes its organizational problems and points out its inadequate adaptation to changing public demands. In 1972, after settling the physicians' strike against *Kupat Holim* that was declared in protest against the appointment of a nonphysician as the director of the organization (*3*), the new director appointed a public committee to study the organizational administrative system of *Kupat Holim*.

The top priority specified in the charge letter to the committee was ". . . to examine the organizational-administrative structure of the General Sick Fund, having in mind as first priority, the standard and quality of medical services rendered to the insured members of *Kupat Holim*" (*4*). The recommendations of the committee relate to several aspects of the organization. The organizational structure is the first item, followed by comments concerning the structure and operation of the general outpatient clinic. Further recommendations relate to the general policy of *Kupat Holim* and in particular to the policy on medical issues. Finally, the committee deals with administrative policies and makes recommendations concerning manpower policies.

One of the committee's recommendations is: "In order to streamline and properly plan the work of the Sick Fund, the institution should adopt a multi-annual work program formulating five-year budgets, a three-year framework and a detailed yearly plan." Obviously, it is implicit in this statement that such planning activities did not exist in *Kupat Holim* prior to the appointment of this committee. This is particularly interesting in light of the fact that the organization always has provided at least 50 percent of the health care in the country. In 1972, there were over 2,000,000 registered members in the Funds, amounting to 65 percent of the total population.

It is easy to conclude that the significant achievements of the Israeli health care system have been reached in many cases despite managerial weaknesses in planning. The main explanation of this state of affairs is the high degree of personal motivation and dedication of individuals who initiated and developed services whenever these were needed. Nevertheless, in the past 5 years, a major effort has begun in planning health services.

The major health planning activity currently underway in Israel is the preparation of the forthcoming national health insurance act. The bill has been presented to the *Knesset* (House of Representatives) twice and returned to the Committee of Public Services for further study and revision. This is the first major health legislation proposed since the start of the state in 1948. All previous health legislation efforts were in the form of revisions and amendments to the 1949 National Health Order, which was adapted from a similar order issued by the British Mandate that ruled the country prior to 1948.

No overall goal is included in the statement of the proposed legislation and the only hint to a goal is given in the introduction: ". . . to broaden the legal basis of social security and of welfare services rendered by the state to its citizens" (*5*). The details of the proposal require, among other items, that:

- Every person must be insured by one of the existing sick funds, the Funds being forbidden to impose any restrictions on the basis of pre-existing medical conditions.
- A minimum service package must be provided by each Fund, and this package should not consist of services of lower quality or of narrower scope than the current health services.
- There should exist internal and external controls over the activities of each Fund.
- A national planning council shall be organized to coordinate the actions of the various Funds, to facilitate long-range planning, and to strive for better continuity in health care through integration of preventive, curative, and rehabilitative services.

The main financial arrangements are:

- Premiums shall be paid by every person 18 years old or over at a level relative to his income.
- Employers will pay the insurance premiums for their employees and deduct the sum from their wages.
- Employer's contributions and those of the self-employed population will be paid to the social security authority and distributed by it to the Sick Funds.

Accepting Falk's (*6*) analysis, the main goals of a national health insurance program are: (a) to assure availability of care to all; and (b) to divide the cost of care among members of a group. With cost inflation, these two statements become strongly interrelated because financial constraints may make health care unavailable to some people. Sharing the cost among members of a large group removes the variability in personal expenditures. It also reduces the chance of financial disaster due to the cost of medical care in time of illness.

These two points are covered by the proposed legislation for National Health Insurance (NHI) because the Sick Funds, which are supposed to provide services under the new law, have as their primary goal the concept of "mutual aid," namely, the sharing of costs of medical care in a progressive manner. In addition, the removal of all restrictions upon admittance to membership by any one of the Funds, especially the restrictions of previous illness and/or disability, assures availability of the services to all citizens. The government assumes responsibility for providing services to regions not covered by facilities and by staff of either of the Sick Funds.

The requirement on the control of scope and quality of services, although important, is not specific enough and requires a great deal of regulatory elaboration. This is a deficiency in the law because it will make future evaluations of cost containment a very difficult task. In another discussion of cost containment measures (7), it has been claimed that cost containment must be measured simultaneously with output of health services. The fact that the law does not specify current output in some measurable form makes this section relating to maintaining the current level of quality and scope of services a meaningless order.

The cost of care is intended to be a matter closely regulated by the law. Insurance premiums will be determined by the government. Budgets of the Sick Funds must be prepared in a prescribed manner and must be approved by the Ministry of Health. The government may subsidize the operations of the Funds through contributions to their budgets. The Funds are not permitted to spend over the approved budget. Finally, the financial affairs and operations of the Funds will be controlled by the public controllers' office.

These cost regulations are not effective because they cannot be enforced and there are no incentives for the Sick Funds to adhere to them. This is apparent in the present day situation which is, in practice, very similar to that prescribed by the proposed law. The main difference is the legal backing which the new law provides. This will result in more pressure on the government to finance the chronically overdrawn balances of the Sick Funds.

Whenever a Sick Fund spends all of its annual budget before the end of the year, the government must support it because the public needs the services. Assuming the extreme situation in which the Sick Fund must cease its operation because of a lack of funds and is therefore forced to disband, there is no efficient mechanism for members of this Sick Fund to be absorbed by another fund. The government is required by law to provide the services to the members of the disbanded Sick Fund. It is more likely, therefore, to cover the deficit and maintain the operation of the fund, a cheaper solution.

This situation is, for all practical purposes, a "cost plus" reimbursement arrangement, which, along with the poorly defined control over health services production level and quality, makes the success of the law questionable.

The question becomes especially disturbing when it is realized that currently 89 percent of the population is insured in one or another of the Sick Funds. There is no precise information about the socioeconomic characteristics of the 11 percent who are uninsured. It is very likely that this group could be insured through a mechanism other than NHI and thus achieve the total coverage aspired to by the law. But if it is not for the purpose of reaching this portion of the population, the only other conceivable reason for producing this legislation could be that the government already covers about 45 percent of health care costs. This percentage is continuously increasing and the government wishes to have greater control over its own expenditures.

The major flaw in this legislation was the lack of clearly defined goals. If the purpose was clear to the planners, they neither identified their need nor presented the factual basis for their conclusion that there was a need. Nor did they include the extent to which they expected the new law to satisfy the need.

The preceding discussion asserts that a legislative proposal is equivalent to a plan and the preparation of a legislative proposal is equivalent to planning. The assumption is made that the rationale and the need for a plan is a fundamental part of the plan and must be an integral part of it. Furthermore, a plan must include the tools for control and evaluation. Measures of effectiveness and their levels, both during the planning period and those expected to be reached through the operation of the plan, must be clearly specified. In Anthony's (*8*) words: "The estimates used in strategic planning are intended to show the *expected* results of the plan."

In most health planning and legislation, a distinction is made between planning and evaluation. Planning is a look into the future and the design of systems for use in the future. Evaluation, on the other hand, is a look backward, assessing past accomplishments. This distinction between planning and evaluation makes the latter a very difficult task. It ignores the planners' responsibility to follow up the execution of their plan and to suggest whether to continue, terminate, or modify it according to its success in achieving its goals. Schaefer (*9*) states this concept as follows: "Health planning, to be adequate, has to specify how evaluation will be done in health programmes and systems being planned or modified."

It is less costly to do program evaluation as a preplanning project to provide planners with the needed information with which to develop the plan. This information assures them that a need for their plan does exist and it provides the evaluators with baseline data with which to compare the subsequent achievements of the program. Furthermore, given a set of measures developed prior to the planning, the planners may include instructions as to the type and form of data to be collected during the program and the method for their collection. The evaluation thereafter is a routine matter of accumulating data and performing the needed analysis and comparisons.

Because of continuous cost inflation in health care, it is imperative that cost containment be a goal of every proposed health plan. The plan must, therefore, indicate the cost and output levels of the service prior to the plan and must prescribe a time period for re-examination of cost and output levels to assess the success of the program.

A similar example can be shown from the American experience. The immediate importance of Medicare legislation was, in Somers' and Somers' (*10*) words, ". . . to meet the intensely serious problem of providing adequate care for a large and growing sector of the population, those who faced old age fearful of the financial ravages of illness." In another chapter they provide a thorough analysis of the expected impact of Medicare on hospital costs. The important questions to be asked today are: (1) In 1976 do senior citizens in the United States receive at least as adequate care as they did in the years prior to Medicare? (2) Have they been freed from the "fear of the financial ravages of illness"? (3) Has the cost of Medicare justified the degree to which the law has achieved its main goals? Obviously, like most laws, this one did not provide any information as to the adequacy of care rendered to senior citizens in the years prior to Medicare, nor did it indicate the average out-of-pocket expenditures for health services by senior citizens or a distribution of senior citizens by income or financial status. Therefore, the task of evaluation is difficult and the program may be continued for many years without clear knowledge as to whether it does provide senior citizens with a desirable service or instead has no effect.

A number of attempts have been made to combine evaluation and planning activities in models of planning. Fetter and Thompson (*11*) collected a large body of data on the demand for and supply of hospital services by departments and their associated costs. They developed a computer simulation of a health system on the basis of these data. Given new information on the population and prices of a region, the simulation program develops a plan for the number and size of hospital services required for the region. Measures of effectiveness are provided and, upon implementation, an evaluation can be used in comparing the progress of the project and its performance relative to other similar projects.

Torrance et al. (*12*) developed a health utility index based on subjective ratings of a group of physicians. They use this index to rank-order health programs with respect to cost effectiveness, assuming that the budget is constrained. They show how to select the best set of health programs that achieve the greatest effectiveness at a minimum cost within a given budget. These same measures can be used after the programs are implemented to assess the actual performance relative to the expected one. Bush et al. (*13*) use a different approach to the construction of a measure of effectiveness; they base it on a concept of "quality-adjusted years of life." They use this measure to demonstrate a solution to the problem as described above, namely, the selection of a set of health programs that will yield the highest effectiveness at a minimum cost at a given budget.

These examples show some first attempts at tackling "small" health planning problems. The major health plans, namely health legislation, have not yet been approached in this manner. Conceptually, it is thought to be easier to provide estimates for planning and evaluation on the legislative-strategic level because these estimates may be general and rough. The precision levels that are desirable in operational plans are not generally needed at the strategic-legislative level.

SUMMARY

It is the contention of this paper that health legislation is a form of health planning and therefore should be prepared in compliance with proper planning theory. As such, the law must specify its goals and the data and measures which led to the identification of the need for the law. Furthermore, the law should indicate when and how an evaluation should be performed to measure the success of the law in reaching its stated goals. The law should also specify under what conditions it should be maintained, modified, or repealed. Cost containment is a goal that must be included in every health program to provide the basis for evaluation of the cost effectiveness of any health program.

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CONTROL AND POWER IN HEALTH POLICY FORMATION

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I am not going to discuss specific techniques, methods, machineries, structures, or whatever, of health policy, but I will focus on the issue of *control.* By this I mean the difficult and embarrassing question of who controls those techniques, machines, processes, structures, and so on. This, I postulate, is the real issue.

In this regard, we have to start with planning. What do we mean by planning? Let me begin by defining both what I perceive to be planning and how planning fits into the decision-making process.

Figure 1 shows—very sketchily, of course—the different groups that are involved in terms of decision making. At the very top are the decision makers (D). These, in theory, will be the political bodies. Whatever they decide is implemented by the administrative machinery (A), going all the way down to the institutional level—hospitals, health centers, group practices, or whatever. In P we have the planning function. Included in the planning group are those in charge of developing the different alternatives and making decision makers aware of the pros and cons of choosing one alternative over another. Whatever has been implemented by the administrators is in turn checked, supervised, and regulated by the regulators (Rg). Of course, in those countries where most health services are funded with tax money, budgeting from either the central or local government is the most powerful of all the regulating mechanisms.

Out of that administration comes a series of data and information that is collected by the statistical group (St), i.e., by the data-gathering system of that country, unit, or whatever. That information may or may not be analyzed by the research and evaluation group ($Re+Ev$), and that evaluation and analysis is shared with the planning group that uses it to develop the different alternatives from which the decision makers finally choose. These, then, are the different stages of planning as I perceive them, although of course this is very much at the theoretical level.

Let us now turn to the United States and analyze who is doing what in each of these different stages. The left side of Figure 2 shows the different levels of government—federal, state, and local—while the upper side shows the different functions of decision making: planning, regulating, statistical data gathering, and, finally, research and development. This

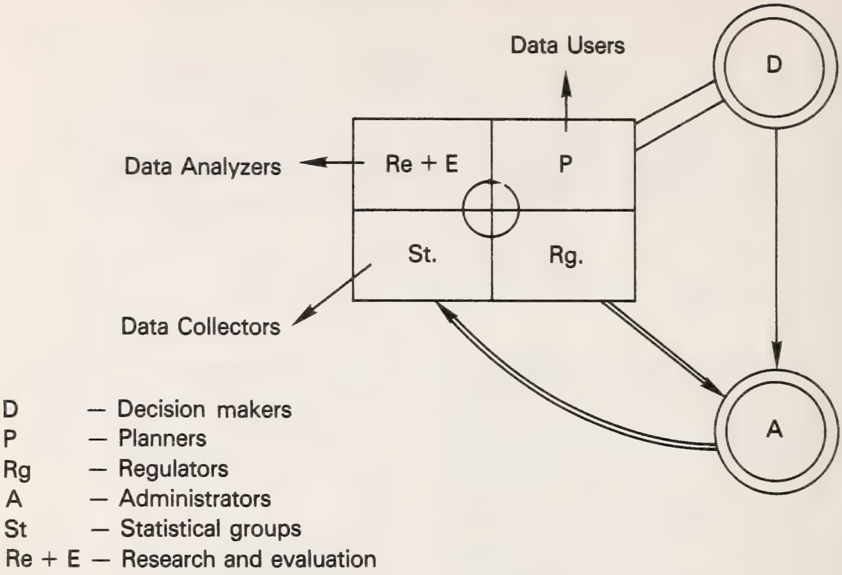

Figure 1. Required functions and groups in decision making.

was a graphic I prepared 2 years ago; however, with some modifications that I will be speaking about later, I think it is still applicable today.

First, we have the planning function at the federal government level. We used to have, until very recently, and we still actually have today, the Comprehensive Health Planning (CHP), with the A (state level) and B (local level) agencies.

What are the main constituencies behind the legislation? (1) The public sector, including both the federal and the state governments, which were very much concerned about hospital construction; and (2) the hospitals, whose *primary* aims were controlling costs and controlling and limiting the market entry. Their *secondary* aim was to reorganize the system through control of capital investments. The weakness in that strategy, as I perceive it, is that capital investment is less than 3 percent of all health dollars, and it was very difficult to reorganize the system on that basis.

Further to the right in Figure 2 are the regulation functions, including regulation of capital investment, operating expenditures, and quality and costs. Capital expenditures are supposed to be regulated by the certification of need legislation.

In terms of the operating expenditures, we have, in some states, hospital cost-control commissions, for example, the one in Maryland. The main constituency here is the public sector, concerned about costs; and again, the primary aim was controlling those costs. The secondary

	PLANNING	REGULATION			STATISTICS	RESEARCH AND DEVELOPMENT
		Capital Expenditures	Operating Expenditures	Quality Costs		
Federal	CHP, other bodies			PSRO	NCHS	NCHSRO RMP
State	"A" CHP	CN + SII	HCCC	PSRO (?)	SCHS (?)	
Local	"B" CHP	CN + SII		PSRO (?)		CHSRD RMP
Constituency	public sector (F+S) + hospitals		public sector(S)	A M A	public sector(F) + academia	academic medicine
Primary aims	controlling costs controlling market entry		controlling operating costs	avoid public regulation	obtain information	obtain funds
Secondary aims	reorganize system through control of capital investments		reorganize system through "Invisible Hand Market" condition: consumer well-informed (ex. Dennenberg)	controlling costs + quality (?)	obtain power	improve system
Weakness	successful: controlling market not successful: reorganized system why: control only 3% of all $		assumes market works	strengthens private sector	great opposition from A.M.A. (ex. DMI)	wrong assumption: knowledge convinces

Figure 2. Functions and groups in the decision-making process in the health sector of the United States.

aim was to reorganize the system through the invisible hand of the market. The condition, of course, was that the consumer should be well-informed and well-educated, and on this basis, he or she would directly allocate the resources within our society. The weakness here, in my opinion, is that the market does not work, certainly not in the health sector.

Another area of regulation relates to quality (and cost), the Professional Standards Review Organizations (PSROs). At the time I prepared Figure 2, it was not quite clear whether the PSROs were going to be based at the state or at the local level. As you may recall, this was one of the points of debate between the American Medical Association (AMA) and Senator Bennett, who introduced the legislation in Congress. The constituency for that piece of legislation was the AMA, and you also may recall that when Senator Bennett introduced it, he indicated that the draft had been written in Chicago. The primary aim was to avoid public regulation by volunteering a process of professional self-regulation. The weakness of the legislation is that it strengthens the pattern of professional dominance in the health sector.

In terms of the statistical group, we have the data-gathering system and, based on my knowledge of several countries, I really think that we have to pay tribute to the National Center for Health Statistics. It is one of the best systems of which I am aware. Its weakness is that it is not available at the state level, and certainly not at the local level. Its constituency is the public sector and, to a certain degree, academia. Its primary aid is to obtain information and, in turn, to obtain power. Of course everyone realizes that information is power.

In the area of research and development, we have the National Center for Health Services Research and then the local, for the most part academic-based, centers whose main constituency is academic medicine. At the time I prepared Figure 2, I was more cynical, and I indicated that their primary aim was to obtain funds.

The secondary aim of the National Center for Health Services Research was to provide information that would serve as a basis for planning. The basic weakness here, of course, is the assumption, fundamental to academia, that knowledge itself convinces decision makers—a very wrong assumption, in my opinion.

Within this type of political scenario, let us analyze the main developments, as I perceive them, in the planning scene in the United States. First, we can see a centralization of the planning machinery. Indeed, the intent of the new planning legislation is to strengthen the previous planning machinery. The Secretary of the Department of Health, Education, and Welfare is responsible finally for whatever planning takes place and delegates that responsibility to various ad hoc committees at the state and local levels, but bypasses local levels of government.

Incidentally, this is also the situation in Britain. I was glad to hear that my colleague from Britain agrees with my interpretation that the reorganization of the health sector in that country is in the process of trying to centralize its policy and planning machinery.

The second characteristic I see in the United States is the further strengthening of the control of the planning and regulatory machinery, both in terms of the apparatus of regulation and the distribution of human health resources by the medical profession. The control over regulation of the profession has essentially already happened via the PSROs; PSROs are the equivalent of having the Federal Communications Commission controlled by the broadcasting industry. Although such control of the regulator by the regulated exists, there is a certain tradition of legislative decency, and that situation is not recognized by law. In the health sector, however, this "decency" has disappeared. The medical profession, by law, controls the regulating agency.

A related point concerns the control, not of the apparatus of regulation, but of the apparatus of distribution. This is bound to happen with the coming Kennedy-sponsored legislation, where those who regulate the broad distribution of physicians at the point of residence and possibly at the point of practice are basically those in academic medicine.

Now let us see what we can learn from the countries we have discussed, starting with Britain. It seems that in terms of professional dominance of the planning and regulatory machinery there is, in Britain, a situation that has some relevance to the United States. Let us go back to the time when the National Health Service (NHS) was first established, and I would postulate that we are in a similar situation in this country in terms of decisions in the health sector. When Bevan[1] established the NHS, he made three key compromises that, in my opinion, are primarily responsible for the problems that the NHS faces today.

The first was to formalize the control that academic-based medicine had on the apparatus of production of resources in the NHS. The medical establishment, which is the London, academic-based establishment, controlled the apparatus of production, medical education, and research. This control was formalized by Bevan, and I hope shortly to publish a book in which I document the pattern of control by London-based medicine over the apparatus of production within the NHS.

The second was to compromise by formalizing the pattern of professional dominance of planning and administrative bodies of the NHS. Within the profession, of course, consultants are the dominant force. General practitioners are second-class citizens. To give you an idea of the professional dominance of the consultants: while at one point representing only 2 percent of the entire health labor force in Britain, they held 30 percent of all seats on regional hospital boards and hospital-management committees, and this situation has not changed with the establishment of new bodies.

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[1] Aneurin Bevan, Minister of Health 1945–50.

The third was not only a pattern of professional dominance but of social class dominance as well, and I think that Bevan did this quite consciously. He reassured the profession and, in particular, the consultants that by appointing people from their own class to sit on these boards, nothing "wild" would happen within the NHS. This was stated quite explicitly by Bevan, who was generally a very candid individual. In an analysis that will be published soon, the author points out that of the members sitting on the regional hospital boards and hospital-management committees, 85 percent come from the top 12 percent of British society. So you can see a pattern of professional as well as class control in Britain's National Health Service.

What have been the consequences of these compromises? Let me hypothesize as to some of them. One is that the hospital orientation of the NHS cannot be disassociated from this pattern of professional and class control of the NHS. Also, in terms of the regional distribution of resources, this cannot be disassociated from that pattern of control, professional and class. I add class because, for example, according to a superb, extremely elegant study carried out by three scholars of a British university and published in the *Lancet* in 1974, showing the regional variations in the allocation of financial resources in the NHS, there is a positive correlation between the amount of funds allocated, either to hospitals or community health services, and the percentage of upper socioeconomic individuals in that region.

It is interesting to note that the NHS is a system in which there is a centralized system of funding, with the planning machinery clearly controlled by the professional group, i.e., academic-based medicine, primarily London-based.

Planning was not introduced into the NHS until 1970. Some steps have been taken since in terms of choosing the age distribution, as well as the overall size of the population to be served, as criteria for distributing resources. Until 1970, however, the allocation of resources was made largely on the basis of who shouted the loudest. And I think that we are all aware that academic-based medicine and other upper-class groups are very good at shouting.

This has been the experience of the NHS. It is no doubt true, in my opinion, that central funding is the best mechanism for establishing a national ceiling on health expenditures. However, as long as the pattern of class and professional dominance and even control within the health sector remains unchanged, we will find that those patterns of expenditures very much replicate that pattern of control. This is nothing more than common sense. The outcome depends very much on who controls the process.

It is interesting to note in this regard that while the NHS has been very successful in terms of controlling the ceiling of overall expenditures, when we analyze the pattern of distribution of these expenditures, as several of us have done, it is very similar to that found in other countries where the pattern of control of the planning and regulatory machinery of the distribution of the resources is also similar.

What, then, is the main relevance of this situation for the United States, where the basic political debate at this time is between the conservatives, who want to put reliance on the market, and the liberals, who want to have a semblance of public control? I would postulate that this debate has to be transcended. Why? Because the issue is not only the size and place of the boxes, but the composition of the boxes. I think the issue of the control of the planning, regulating, and administrating machinery has to be confronted directly. And facing it is, I postulate, the key issue.

Let me add one example that might illustrate this better than anything else I could say. I had the great privilege of serving as health consultant to the Allende government in Chile. In the administrative machinery, the pattern of control of the health institutions, including the boards of the hospitals and the health centers, changed substantially under the Allende regime. Whereas the boards of those institutions were once professional and controlled by the upper class, the pattern changed to one where the boards had to be elected—one-third by the local authorities. And in just 3 years, the distribution of resources changed dramatically.

Thus, instead of focusing so much on methods and technique, I would hope that we could raise the issue of who controls those methods and techniques in these different countries. And as I have indicated, it is my opinion that unless there is a change in the pattern of control in the planning, regulating, and administrative agencies, no substantial changes will occur.

Finally, let me add two items concerning the readiness of the American people for such change. According to a recent poll, 22 percent of American citizens are receptive to, and asking for, the idea of creating a national health service—not national health insurance—national health *service*. This is remarkable. Never has this alternative been discussed in any meaningful, intelligent way in the media, yet 22 percent of our citizens are asking for a system that will be not only publicly funded but publicly controlled.

Another 38 percent of those polled asked for a Kennedy-Corman type proposal.[2] Adding 38 to 22 percent means that 60 percent of the

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[2] The national health insurance proposal, officially named the Health Security Act.

American people now are ready for changes far more profound than those usually discussed in either academia or federal centers.

This is only one reflection of a mood that translates far more readiness for change than is usually realized. There is still another poll that I think is quite remarkable, and I cannot resist the temptation to mention it. The majority of the American public favors employee ownership and control of all U.S. companies—not worker participation, but *control*—with local communities represented on the boards of companies that operate in their local regions. Here again, there is a gap between what the U.S. population is receptive to and what the Congress is willing to do, which raises a question more profound than I think the majority here might be willing to discuss.

Let me close by stressing once again that the issue that we should discuss here, particularly in this session dealing with planning, is the issue of control. We have evidence of a well-established pattern of professional and class control of our institutions. I think, in that respect, that to limit ourselves to just methods and techniques, without realizing the pattern of control, is to indicate a certain lack of communication.

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HEALTH PLANNING AND COST CONTAINMENT: A SELECTIVE REVIEW OF THE RECENT U.S. EXPERIENCE

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INTRODUCTION

Health planning organizations in the United States have only recently assumed major responsibility in the area of cost containment. All the significant changes in law and policy at the federal and state levels which made cost control a priority item for health planners and which greatly enhanced the planners' powers to control the allocation of health sector resources occurred during the late 1960s and early 1970s. In addition, the decade since 1965 has witnessed many other major changes in U.S. health care and health care policy, such as the implementation of Medicare and Medicaid, the increased use of prospectively set rates for hospitals, the federal price control program during the 1971-74 period, the rapid diffusion of significant changes in the technology of medicine, and increases in collective bargaining activity among health professionals.

Under these circumstances, any assessment of the cost containment impact of planning activities must be highly tentative at best. The historical record is brief and cluttered with confounding influences. The available literature is sparse because economists and other students of the U.S. health care cost problem have for the most part been preoccupied with questions pertaining to insurance and reimbursement systems. However, no self-respecting economist would regard a paucity of factual information as a serious hindrance to analysis or discourse, and therefore I shall proceed, these difficulties notwithstanding.

This paper will focus specifically on two related health planning activities: (1) the federally supported Comprehensive Health Planning (CHP) program, and (2) programs to review and certify the need for capital expenditures for health facilities. By way of background, a brief summary of the nature and functions of these programs will be presented. A review of the findings of several studies that have attempted to assess these programs will follow. Finally, I will discuss some interpretations of these findings and their implications for future policy.

CHP AND INVESTMENT REVIEW AND CERTIFICATION: BACKGROUND INFORMATION

The CHP program was initiated formally by passage of the Comprehensive Health Planning and Public Health Service Amendments of 1966.[1] Although a number of state and areawide planning bodies were in operation prior to this time, the 1966 law established a single program which could serve to coordinate planning efforts and to unify the various pre-existing sources of federal financial support. It provided for grants to areawide CHP agencies (which could be private nonprofit or governmental agencies) and to state government CHP agencies which would develop statewide plans and coordinate the efforts of areawide agencies within the state. Although funds initially provided under the 1966 law were not much greater than those previously available from the categorical programs which it supplanted, appropriations did increase in subsequent years. The result of these developments was a rapid rise in the number of area wide planning agencies from less than 100 in 1966 to about 200 by mid-1971. Moreover, all state governments designated statewide CHP agencies in accordance with the 1966 law although few actually created agencies *de novo*.

Several characteristics of these CHP agencies are pertinent for this discussion. First, they were not given any authority (in the form of incentives or sanctions) to direct the allocation of health sector resources within their planning areas. The health plans which they developed were to be implemented through voluntary cooperation by providers, and the agencies' roles in the implementation process were to foster such cooperation, to serve as catalysts for change. Second, the interests of various types of providers, of local governments, of third-party payers, and of "consumers" were given expression through their representation on the governing boards and advisory councils of the agencies. The purpose of this arrangement was to permit agency decision making on plan development or other matters to flow from a consensus of interest groups; presumably, this would facilitate voluntary compliance in the implementation of decisions. Third, the areawide agencies in particular devoted most of their efforts to health facilities planning. This emphasis was a carryover from the areawide health facilities planning councils of the early 1960s and, as Klarman (*3*) has suggested, it probably reflects the judgment that investment in facilities was most susceptible to agency influence. Finally, areawide CHP agencies obtained a significant portion of their financial support from local sources, such as third-party payers and providers. Indeed, the provision of federal funds on a matching basis made it essential that agencies obtain local funds as well.

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[1] The information on CHP presented here is drawn primarily from Gottlieb (*1*) and May (*2*).

As the inflation problem became more and more severe in the years following the implementation of the CHP program, the hope that planning based on consensus and voluntary cooperation would control costs began to fade. Need for legal or financial sanctions to control overinvestment emerged as a dominant theme in health policy discussions.

Actually, legal sanctions had been in operation in the State of New York since 1964, when that state passed its certificate of need (CON) law, but it was not until 1968 that other states began to take similar action.[2] Between 1968 and 1974, 24 states approved CON laws. In general, these laws require that certification of need of investments in health facilities exceeding some minimum dollar cost (usually $100,000) be obtained from the state CON agency. Providers who undertake unapproved investments are subject to penalties such as denial or suspension of their operating licenses.

Financial sanctions were based on the refusal of third-party payers to reimburse hospitals for costs relating to unapproved facilities. As of 1974, Blue Cross companies in 19 states had adopted such policies, usually relying on areawide CHP agencies for review and approval of proposed investments. Furthermore, under the provisions of Section 1122 of the 1972 Social Security Amendments, federal Medicaid and Medicare reimbursement for capital costs of new investments is contingent upon prior approval. The U.S. Department of Health, Education, and Welfare has contracted with agencies in over 40 states to perform investment proposal reviews under this program.

Comprehensive Health Planning agencies often assumed important roles in the administration of these various investment review programs. Areawide agencies performed initial reviews in most CON programs, and in a few states their judgments were final. State CHP agencies had either an advisory or a decisive role in about half the CON states. The administration of the Section 1122 program was similar except that areawide agencies played a strictly advisory role, while state CHP agencies were more frequently the final authority. Of course, other state agencies—health departments, agencies administering the federal Hill-Burton program, or special commissions or councils—also frequently are involved in administering CON or Section 1122. In addition, as already mentioned, areawide CHP agencies generally were involved in Blue Cross investment reviews as well. Finally , it should be noted that while these arrangements are changing somewhat with the recent termination of the CHP program and the reorganization of planning activities under the 1974 National Health Planning and Resources Development Act, the areawide and state planning agencies being created in accordance with this new law are organized along lines similar to those of the CHP program and are relying heavily on the staff and advisory personnel previously involved in the CHP program.

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[2] The material in this paragraph and the two following is based upon the recent survey by Lewin and Associates, Inc. (*4*).

ASSESSMENTS OF PLANNING EFFECTIVENESS

Assessments of the effectiveness of planning activities have been both descriptive and analytical. Descriptive studies focus on matters of process and on the personnel, financial, and informational resources used by the planning agencies. Analytical studies use statistical methods to estimate the impact of planning activities on costs and on investment in health facilities. Since the descriptive literature is too extensive and varied in format to permit an adequate summary within the available time constraints, my remarks will be confined to the major problem areas reported in several recent studies.[3] Then the findings from two recent analytical studies will be reviewed.

Deficiencies in the functioning of CHP agencies were clearly pointed out in two reports by the U.S. General Accounting Office (GAO) issued in 1972 (*5*) and 1974 (*6*). For instance, of the 163 areawide agencies studied in 1972, less than half had defined current need levels for inpatient beds or inpatient and ambulatory facilities and services, and even fewer had projected need levels for 1975. Only 20 percent of the agencies had actually developed master plans for health facilities in their area. Similarly, the 1974 study reported that only one of three state agencies and three of six areawide agencies studied had developed comprehensive health plans but that even these plans were not yet refined enough to serve as a basis for action. More generally, the GAO studies pointed to a host of practical problems which impeded the agencies' efforts to develop information and criteria for use in the planning process. These problems included poor coordination with other agencies, area boundaries that cut across different medical service areas or that differed from boundaries used for other planning activities, inadequate data resources, and the need for agency staff to spend considerable time in raising local funds to meet federal matching requirements. In addition, the 1974 report suggested that representation in agency proceedings was a serious problem; in most instances, "consumer" representatives attending advisory council meetings were in a minority.

The performance of state and areawide agencies in reviewing investment proposals under CON and Section 1122 programs was the subject of a recent descriptive study by Lewin and Associates, Inc. (7). This study, which was considerably more extensive and detailed than the 1972 and 1974 GAO reports, confirmed the existence of many of the problems cited by the GAO. Thus, on the matter of review criteria, the following conclusions are offered:

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[3] For references to earlier studies, see May (*2*).

> (F)ew . . . agencies at either the state or area levels have adequate need projections, review criteria, or data resources with which to conduct the . . . review function. Most state and area agencies rely on Hill-Burton need projections which are based on obsolete data . . . Criteria for review of special services are rare . . . The need projections and criteria that do exist . . . reflect a 'no-change' assumption about the present configuration of the health delivery system, although there is little evidence that alternative configurations have been considered. Moreover, there is a widespread tendency to apply criteria . . . that are not made explicit, e.g., preferences for "full service hospitals" or opposition to proprietary providers. [*4*(1):7]

With regard to adequacy of data resources, the report states that:

> (N)early half of the sample area agencies and over two-thirds of the sample state agencies relied on hospital bed data . . . at least two years old. The situation with respect to (long-term care) beds, specialty services, and equipment is much worse. Current, reliable utilization data is practically nonexistent. [*4*(1):7]

The report further suggests that these problems stem not only from the primitive state of the art of health planning but also from deficiencies in agency leadership and resources, and from the inability to require providers to supply necessary data on a regular and timely basis.

The Lewin report also addressed the question of "consumer" vs. provider representation and again confirmed the problems found by the GAO. Examination of attendance at meetings in which final decisions on investment proposals were made revealed provider majorities in 25.9 percent of state agency meetings and 46.9 percent of areawide agency meetings. Moreover, a number of agencies were found to rely on provider-dominated primary review committees ostensibly to ensure expertise in the review process.

Another interesting feature of this study is the descriptive evidence which it provides to suggest that agency efforts to curb unnecessary investment often are not very strenuous. For example, approval rates for investment proposals generally exceeded 90 percent. Also, two-thirds of the agencies studied had approved additional hospital beds that would raise area bed supplies to more than 105 percent of their future need projections; in fact, half of these agencies approved new beds even though existing supplies already exceeded this level. Most surprising, however, was the finding that fewer than half of all agencies saw cost containment as the primary goal of the investment review programs and one-fifth of the areawide agencies did not consider it a goal at all.

One of the first extensive analytical studies of planning impacts was carried out by Professor Joel May (*2*). He examined changes in selected characteristics of the short-term hospital industry over the 1960–70 period for 144 large metropolitan areas. Areawide planning agencies existed in about 60 percent of these areas, with about half of these agencies having been engaged in planning activities prior to the establishment of the CHP program in 1966. Since formal legal or financial sanctions (for providers who did not comply with agency decisions) were present for a substantial period during the 1960s in only a few of the areas studied by May, his results primarily reflect the impact of planning in the context of voluntary compliance.

Among the dependent variables in May's regression analyses were: number of hospital beds, employees per bed, percent of hospitals with intensive care units, percent of hospitals with radioisotope therapy, percent of hospitals with maternity care units, percent of hospitals offering outpatient services, and percent of hospitals offering home care services. His coefficient estimates generally showed little or no evidence that planning affected the supply of beds or the number of employees per bed, but he did find at least weak evidence that planning actually increased the percentages of hospitals with intensive care units, home care programs, and outpatient services. In addition, he presented comparative data on hospital mergers and shared services which showed virtually no differences between areas with and without planning. Taken together, these various findings are clearly inconsistent with the idea that planning can control costs by reducing unnecessary expansion and duplication of hospital facilities.

The effectiveness of CON laws in controlling hospital costs was examined in a study which this writer recently completed in collaboration with Professor Thomas Bice (*8, 9*). In this study, we first estimated the impact of CON on hospital investment; then, in the second phase of the study, we incorporated the estimated investment impacts into an analysis of CON effects on the per capita cost of hospital care.

Using data from all states for the years 1968–1972, we applied multiple regression analysis to determine the effect of CON controls on three measures of investment: the change in total plant assets in short-term hospitals, the change in beds in these hospitals, and the change in plant assets per bed in these hospitals. The results indicated that the presence of controls had no significant effect on changes in total assets, a negative effect on changes in beds, and a positive effect on changes in plant assets per bed. We interpreted these findings as implying that CON controls merely shifted the composition of investment, reducing investment in beds but encouraging investment in more sophisticated equipment and facilities.

The overall cost implications of this result were unclear since the cost savings stemming from reduced bed investment (and the associated reduction in the volume of hospital use) might be offset by increased unit costs associated with greater investment in equipment and facilities. In order to examine this issue and to estimate any additional effects of CON controls on costs, we then carried out a regression analysis of hospital costs. The results of this analysis indicated that the impact of controls on per capita costs was negligible and perhaps even slightly positive. In short, virtually no evidence was found to support the presumption that CON programs would effectively control hospital costs.

The conclusion which emerges from the few studies cited here is that planning—with or without "teeth" (i.e., sanctions)—has thus far not been effective in controlling excessive investment or the rise in health care costs. Furthermore, while this review of the literature has been brief, one strongly suspects that a more extensive search would have led to this same result. And, as will be indicated shortly, there are a number of plausible hypotheses about the behavior of planning agencies which point in this direction. Nevertheless, several qualifying remarks are in order.

First, the quantitative evidence from analytical studies is limited, diluted by data problems, and possibly influenced by selection biases.[4] Second, while I have discussed evidence about planning in general, there are also anecdotal reports of exceptions, of cases in which particular planning agencies have forestalled particular investment projects that appeared to represent undesirable duplication or expansion. Third, neglected in this discussion are other effects of planning which are not directly related to cost containment but which may be indirectly related. (For instance, there is the possibility that the procedural requirements of investment reviews have rationalized the investment decision-making process within the hospitals.)

INTERPRETATIONS AND POLICY IMPLICATIONS

For purposes of policy formulation, the pessimistic findings cited here are not really sufficient. Although the ineffectiveness of planning activities in containing costs is surely of interest, it is also important to know the explanation for this ineffectiveness. Unfortunately, available evidence offers little guidance on this point, but at least we can review several explanations which seem rather plausible.

An explanation indicated by the descriptive studies is that the resources, information, and expertise available to the planning agencies have been insufficient. Lacking the guidance of the detailed plans which they have yet to develop, the agencies have been unable to rationalize the configuration of services in their planning area and to control unnecessary expansion. This explanation does not go far enough, however, because it merely assumes that planners will adopt a passive role in this circumstance. The possible bases for such behavior must also be considered.

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[4] Selection bias is a potential problem because areas with planning (or with CON laws) may differ from other areas in ways which are not incorporated in the analysis but which do influence the results.

Klarman (*3*) has suggested that financing considerations may explain the reluctance of areawide agencies to check the expansion of local facilities. When a large fraction of the costs of investment are borne by federal grants or by tax and insurance premium payments from outside the planning area, as is often the case, both consumer and provider representatives in the planning process will favor expansions of services.

An alternative explanation, based on experience with regulation in other industries, is that local providers' interests become dominant in the agency's decision-making process.[5] This may have been especially likely in the case of areawide CHP agencies since providers were a source of both financial support and information for these agencies.[6] Of course, the provider-dominance hypothesis does not simply imply that planning agencies will allow established local hospitals to expand freely. It further suggests that these agencies will attempt to block entry into the local market by outsiders. This view is supported by the funding of the Lewin study (*7*) of frequent expressions of bias against outsiders by agency staff. Finally, this brings us to the disturbing possibility that entry into the local market will also be blocked for facilities providing lower-cost alternatives to hospital care, such as ambulatory surgical facilities. Where CON legislation is in effect, refusal to permit investment in these facilities may even be consistent in a literal sense with prevailing law; that is, such investment is unnecessary since the same services are already being provided, albeit at higher cost, by local hospitals.

It is also noteworthy that the evidence cited above concerning the effectiveness of CON programs is not strictly consistent with the simple view that the administering agencies are reluctant to control investment. Instead, that evidence indicates that controls were applied selectively, with investment in beds being restrained, while other types of investment were actually encouraged. A plausible explanation of this behavior requires that we take account of some additional factors.

In particular, the nature of the reward structure confronting CON agencies may be one reason for more stringent controls on new beds. If we view the agencies as not simply a tool of local providers, but rather as seeking to please a number of different constituencies (*12*:28–29) (such as legislative committees, consumer groups, and third-party payers), then the criteria used by these constituencies to evaluate agency performance become relevant. Because information on availability and use rates of beds and on standards pertaining to "needed" bed supplies is widely available, while similar information relating to equipment and services is almost nonexistent, external evaluations of agency performance have tended to focus almost exclusively on control of bed supplies.[7] Thus, the rewards of agency efforts in this area are substantial, while little is gained from stringent controls over investment in new equipment and services.

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[5] This possibility is discussed by Havighurst (*10*).

[6] This view is expressed by Lave and Lave (*11*:109).

Furthermore, the political costs of controlling equipment investment may be very substantial. For example, if the sophisticated equipment required for a new medical procedure is restricted by the agency to only one or two hospitals in its area, then the many physicians who do not have staff privileges at these hospitals will be forced to refer patients to other physicians who do. This is not likely to be popular with the local medical society.

The limited scope of coverage of CON laws also may help to explain the greater stringency of controls on investment in beds. Other types of investment usually are exempted from the law unless they exceed some minimum dollar amount which may be $100,000 or more. The possibility of purchasing equipment in segments makes this loophole more significant.[8] Thus, a substantial amount of investment may be beyond the reach of the law.

Finally, the finding that CON regulation actually increased investment in equipment and services also appears to reflect the response of providers to controls on bed expansion. As a consequence of these controls, desires to maintain institutional growth are channeled into increasing the scope and sophistication of services. Furthermore, reduced investment in beds frees investment funds for these other uses.

In closing, let us consider the implications for policy of the evidence and arguments just presented. The broadest implication is that planning programs probably should not constitute the central thrust of cost control efforts and that more reliance should be placed on other types of policies (e.g., utilization review, rate setting, etc.). However, since these other policies have been examined in detail in previous sessions of this conference, there is little point in expanding on this theme. Of course, current trends in U.S. health policy are contrary to this view; the immediate prospect is for a considerable expansion of CON regulation and other planning activities under the provisions of the 1974 National Health Planning and Resources Development Act. Under this circumstance, it seems relevant to focus on the possibilities of making these activities more effective, assuming (perhaps unwisely) that such possibilities exist. Two points seem especially pertinent in this context.

First, it would appear that the provision of adequate and stable financing for planning activities and the generation of much additional information on the functioning of the health sector will have salutory effects. This will reduce agency dependence on providers for needed information and enhance the ability of agencies to defend their positions. The tendency to avoid conflict by deferring to politically or financially powerful interest groups may thereby be lessened. Moreover, the increased availability of information could lead to a more balanced approach to the evaluation of agency performance and hence a more balanced set of rewards.

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[7] A case in point is the Florida legislature's evaluation of the Florida CON program (*13*).

[8] For evidence of this practice see (*14*:123).

Second, it is important to structure planning activities in such a fashion as to maximize concern for costs by the participants in the process. Defining planning areas to avoid large cost spillovers and combining planning and rate-setting functions in a single agency are two specific suggestions which may help to raise cost consciousness.[9] Giving third-party payers and important purchasers of group insurance (such as unions or large employers) a more significant voice in planning activities is another possibility. Another alternative would be to require that planning agencies obtain or develop estimates of the overall cost impacts of proposed investments which would be made public well in advance of agency meetings or hearings.

Recognizing that these suggested improvements appear costly or difficult to implement, we also must be concerned about the temptation to adopt more expedient reform measures. In particular, there is a danger that policy makers will be attracted to the apparently costless strategy of extending the authority of planners by passing laws which expand the scope of current regulatory programs.[10] I see no reason for optimism about the effects of such measures on costs; indeed, they may even compound undesirable side effects of regulation and thus prove counterproductive.

Finally, I would urge that in considering possibilities for improving the effectiveness of planning cost containment, we also be aware of other significant planning issues. For instance, there is a clear need to develop mechanisms for incorporating a broader spectrum of citizen preferences into the planning process. Careful consideration also must be given to the possibilities for further integrating health services planning with other health-related activities (environmental control, education, social services, etc.). Along with cost containment, these issues deserve high priority on the public policy agenda.

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[9] The latter has been suggested in Havighurst (*10*).

[10] An example of this is the suggestion (*14*:125) that CON programs be made more inclusive by lowering the minimum dollar cost figures for investments requiring review and approval.

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NEW DEVELOPMENTS IN HEALTH PLANNING IN THE UNITED STATES

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I look forward to considerable improvement in our health planning process as a result of the National Health Planning and Resources Development Act of 1974 (Public Law 93-641), enacted in January 1975. Responsibility for implementation of this comprehensive law lies with the Bureau of Health Planning and Resources Development.

This law adds two new titles to the Public Health Service Act: Title XV establishes a new program for health planning and resources development, and Title XVI revises the existing programs for the construction and modernization of health care facilities.

The new bureau combines three existing federal programs: First, the very successful Hill-Burton program—that began in 1946—provided funds to state and local governments as well as to private, nonprofit corporations for construction of health facilities. Although some say too many hospitals were built, the goals of the program were realized. The other two programs encompassed by this new legislation are the Comprehensive Health Planning Program, enacted in 1966, and the Regional Medical Program, enacted in 1965, that also had a planning component. This new authority is designed to build on the experience of these three programs by combining their best features into one new health planning and resources development activity.

Among the many provisions of the law are those establishing the National Council on Health Planning and Development, requiring the Department of Health, Education, and Welfare (DHEW) to issue guidelines on national health planning policy, specifying procedures for designating Health Service Areas, creating a network of Health Systems Agencies (HSAs) which are responsible for health planning and development, and authorizing planning grants for HSAs.

In addition, the law authorizes DHEW to enter into agreements with state health planning and development agencies designated by the governor of each state. The provisions relating to certificate of need apply to these state agencies, and it is at this level that we expect to see more of this type of planning activity.

The law also creates statewide health coordinating councils; authorizes grants for state health planning and development; provides technical assistance for HSAs and state agencies; and establishes a national health planning information center. In addition, this act authorizes at least five centers for study and development of health planning. A total of 212 health service areas and accompanying health systems agencies have been designated throughout the United States.

The Health Resources Administration provides the superstructure for the National Center for Health Statistics, the National Center for Health Services Research, the Bureau of Health Planning and Resources Development, and the Bureau of Health Manpower. It is now in the process of developing guidelines on national health planning policy at the direction of the Secretary of Health, Education, and Welfare in consultation with the 15-member Advisory Council that also assists in the implementation of the new law.

Special emphasis is being placed on 10 items specified in the law: (1) primary care services for medically underserved populations, especially in rural or economically depressed areas; (2) development of multi-institutional systems for coordinating or consolidating institutional health services; (3) developing medical group practices, health maintenance organizations, and other organized systems for providing health care; (4) training and increasing use of physician extenders; (5) developing multi-institutional arrangements for sharing support services; (6) promoting activities to improve quality in health services; (7) developing health service institutions with capacity to provide various levels of care on a geographically integrated basis; (8) promoting activities for preventing disease including studies of nutritional and environmental factors affecting health and for providing preventive health care services; (9) adopting uniform cost accounting and other improved management procedures for health services institutions; and (10) developing effective methods for educating the general public about proper personal health care and effective use of available health services.

We hope to assist the states and local communities in their efforts to accomplish the goals contained in this enormous mandate.

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CONTAINING RISING COSTS: THE ROLE OF HEALTH CARE PLANNING IN SWEDEN

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THE SWEDISH PROBLEM—A SUMMARY

Sweden, like most Western countries during the postwar period, has experienced a dramatic rise in demand for health and medical care, and a rapidly increasing cost curve.

For many years after the war, the rising costs for health care were regarded as part of a general increase of material standards. A much-quoted expression from the beginning of the 1960s is a politician's statement: "Health care costs what it has to cost. We will pay."

A general concern about development grew in the late 1960s. Ten percent of taxable incomes went to health and medical care. The rising proportion of old people in the population indicated clearly that a further rise in this percentage could be expected.

The number of people over 70 years of age increased from 754,000 in 1972 to close to one million today. Figures on the bed-day expectancies by age group (Fig. 1) show clearly that such an increase will affect dramatically the need of resources in hospitals and elsewhere. This is demonstrated further by the proportion of the resources used by old people (Fig. 2).

Government and county councils try to meet this trend by several different means, an important one being the gradual restructuring of the health care system. Adding resources to outpatient care (Fig. 3) will lessen the pressure on hospitals, particulary for acute somatic care. New methods—psychiatry probably is the best example—will decrease the number of bed-days per case as well as the number of admissions, but no change in methods can lessen the rising need for somatic long-term care (Fig. 4).

In addition, outpatient care will be restructured. Medical centers, working with social workers, gradually will take over outpatient care from outpatient departments of hospitals and isolated one-man medical stations that until now have dominated outpatient care (Fig. 5).

The costs for health care have begun to affect private consumption. Other parts of the public sector recognized the possibility of reduction in expansion. The rise in the disproportionate county council income tax is shown in Figure 6.

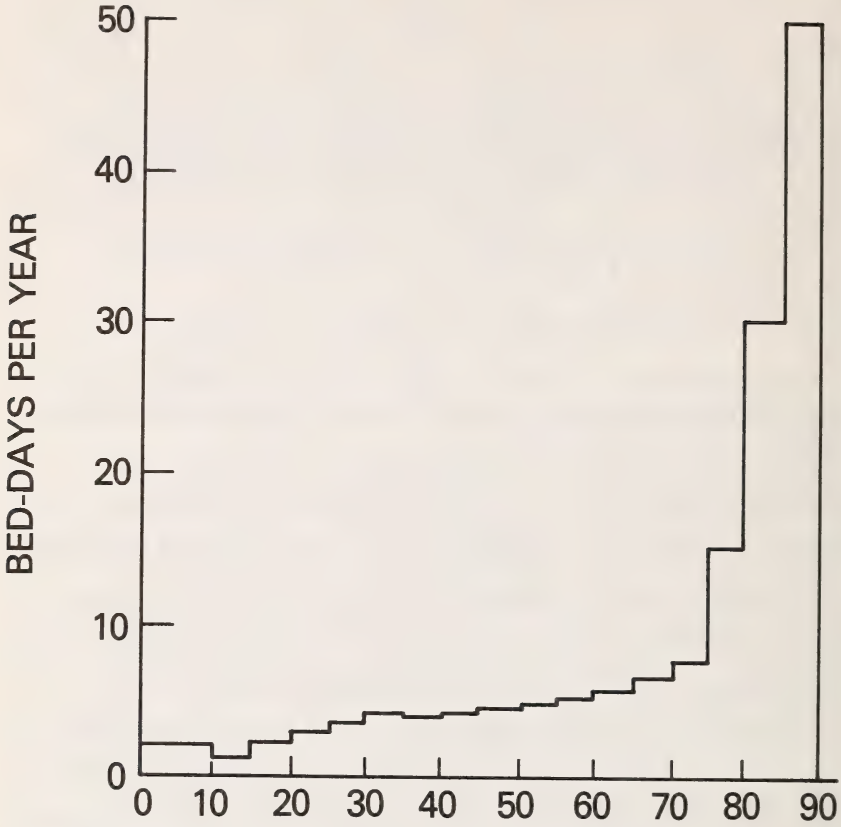

Figure 1. Bed-day expectancies by age group.

A government committee investigating the financing problems relating to activities of municipalities and counties (the latter carrying responsibility for health care in Sweden) was ordered by the Minister of Finance to discuss whether the decentralized form of financing (local and regional income taxes determined by the municipal council and the county council now finance the bulk of local government activities) was efficient in controlling rising expenditures. Health care was mentioned specifically as an example of local government activity whose cost curve was too sharp and where decentralized financing might be to blame.

Negotiations between representatives of the county councils and the government on the financing problems began in the early 1970s. Since the county councils spend an overwhelming part of their incomes on health and medical care, these negotiations were discussions of the "tolerable" share for health care within the national economy. In exchange for increases in state subsidies, it was agreed to halt rises in county council taxes for a fixed period of time. This proved effective in temporarily containing rising costs; the rise in running costs declined from 7.5 to 3.5 percent in fixed prices. Investments were reduced from a yearly rise of 15 percent in the 1960s to a 10 percent decline at the beginning of the 1970s.

During the last 2 years, though, the tide has turned. Political pressure is building up for an increase in the investment curve, and there is considerable public debate as well as demand to increase the personnel density in the hospitals, thus decreasing productivity. This change coincides perfectly with the publishing of regional structural plans for the development of health and medical care.

Just as money has been a scarce resource within the system of health and medical care, so has personnel. During the postwar period the shortage of doctors has influenced heavily both the structure of the health care system and the investment rate. There have been intensive measures throughout the 1970s to balance demand and supply of doctors. These measures now have proven effective, and the shortage of doctors is diminishing gradually.

Now, other groups of personnel are becoming scarce. This is particularly true for trained nurses, but the recruitment of untrained

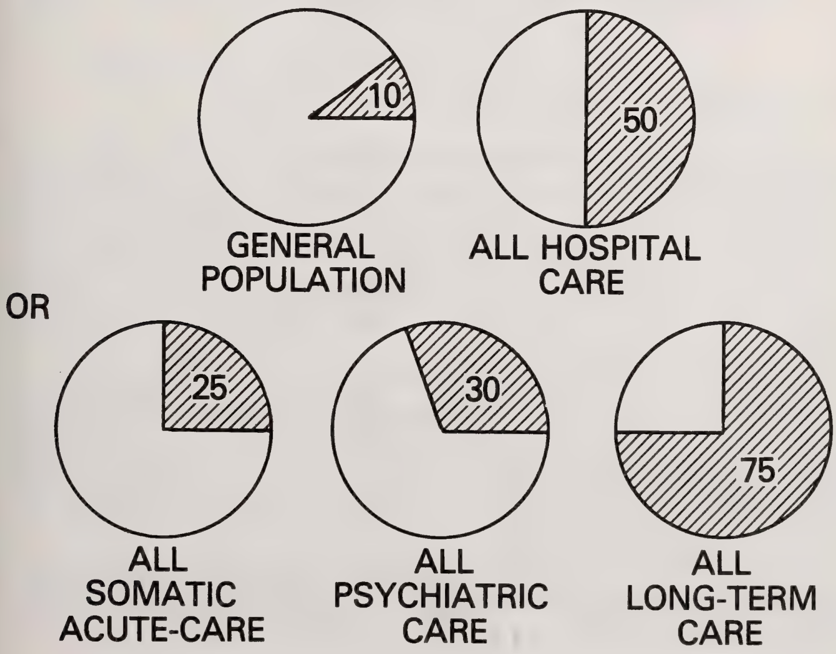

Figure 2. Percentage of all care used by people over 70.

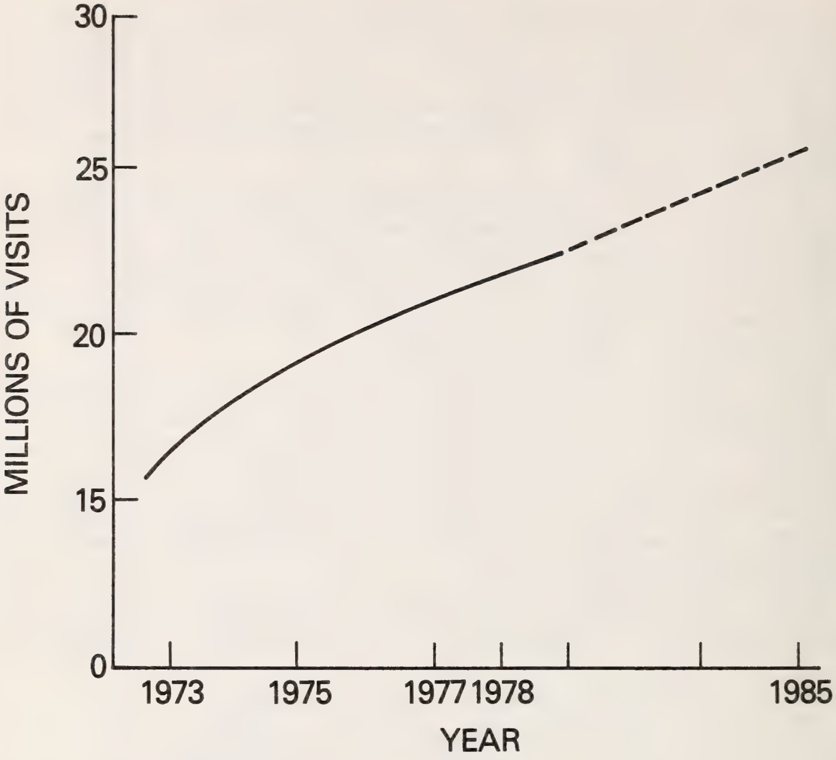

Figure 3. Development of number of visits to doctors.

nurses aides also is becoming a problem, particularly in the metropolitan regions. This latter phenomenon is rather new. The reason is the reduced number of housewives who can be recruited as untrained nurses aides. This source, once regarded as an unlimited supply for untrained personnel, is diminishing, and with unemployment at less than 2 percent even in times of economic recessions, labor as a whole is becoming a scarce resource.

This problem should be compared with the sharply rising number of old people in those areas where the possibilities of further recruitment, particularly of untrained female labor, are small. In the long run this situation might even affect the structure of health care because, due to labor shortages, it may be difficult to maintain an acceptable level of service in metropolitan regions.

Summing up the problems of Swedish health and medical care developments gives us the following keys to understanding the planning process and its outcome:

- Planners and implementers are the same. They have resources of their own through a right of taxation.

- We have two scarce resources which we must use economically—labor and money.
- Productivity, which in health care is essentially a problem of effective usage of personnel, is difficult to discuss in terms of rationalization because public pressure for greater personnel density is very strong.

Structural planning deals with the problems of goal fulfillment at minimal cost. Great effort has been made to establish a health and medical care structure that is economical. This planning process focuses attention on parts of the system where goal fulfillment is low. It therefore tends to build pressure for more investments, more personnel, more institutions, and institutions in new places. To discuss fewer institutions is more difficult. It also is important to regard the structural plan as a plan for political reforms in the field of health and with a strong underscore of egalitarianism.

The discussion concerning costs for health care is a discussion of public or private consumption and a debate about the balance between health and medical care and other parts of the public sector. Therefore, national and regional economic planning is a part of the debate about containing rising costs for health care. Influential health care planning must be translatable to the terms used in economic planning.

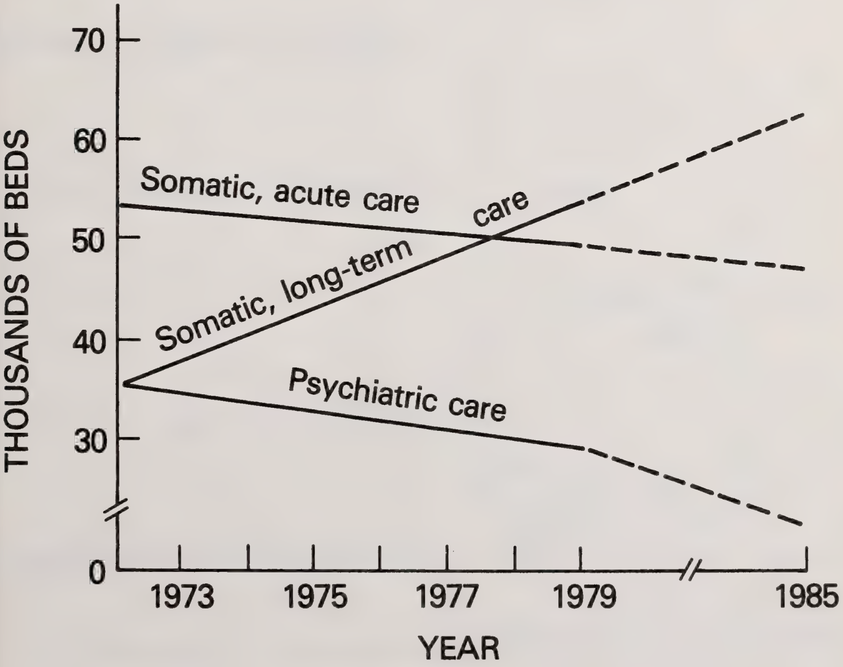

Figure 4. Projected development of bed capacity.

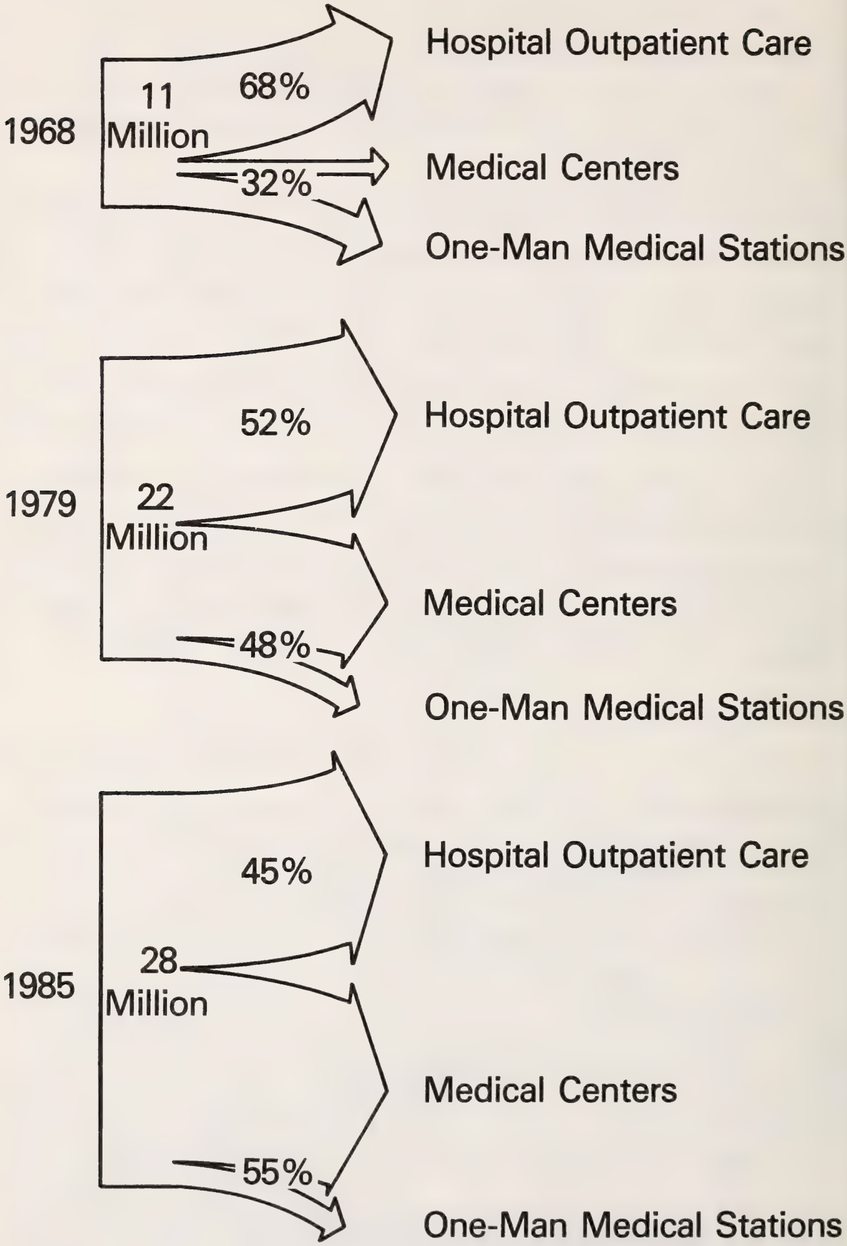

Figure 5. Restructuring outpatients.

High ambitions as to employment and a growing dependency between the school system and the possibilities of growth within corresponding parts of the economy bring planning in the labor market into the discussion of health and medical care development. Problems of labor shortage influence the structure of health care—and thereby also the costs.

HEALTH CARE IN THE POLITICAL SYSTEM

The Swedish political system is organized on three levels—national, regional, and local or district—with corresponding geographical divisions. The country is divided into 26 counties and county boroughs and 268 municipalities. The county is the popular government on the regional level; the municipality is its counterpart on the local level. At the county level the national authorities have their own decentralized representatives. Representing the government is the county board, which is an important institution in employment planning matters.

The county council is elected for a period of 3 years by residents of the county. The election takes place at the same time as the national and municipal elections. Anyone entitled to vote in the municipal elections also may vote in the county council elections. During periods when the elected council is not assembled, the county is governed by the executive committee of the council. The chairman of the executive committee is, in most cases, a full-time politician.

Swedish health and medical care is decentralized. Each of the 26 counties is responsible by law for providing all residents with adequate outpatient and inpatient care for illness, injury, deformity, and childbirth. The county council also organizes dental care and care for mentally retarded persons, and trains nurses, nurses aides, and some nonhealth-related occupational groups. The county council also deals with public transportation and with certain cultural institutions such as museums, theaters, operas, etc. However, health and medical care are the major tasks of the county councils. The county councils are relatively independent, largely because they have the right to levy taxes.

Central government authorities have several ways of influencing the medical care services provided by the counties. The National Board of Health and Welfare plays an important role through its authority to approve new positions for doctors. The Medical Appeal Board, attached to the National Board of Health and Welfare, investigates complaints of malpractice or neglect. Approval of blueprints for construction or alteration of medical facilities also is a matter handled on a national level by technical experts and a special board responsible for the buildings of medical and social welfare departments. Building regulations from the immediate postwar labor shortage assign to central authorities the task of setting priorities between different projects of

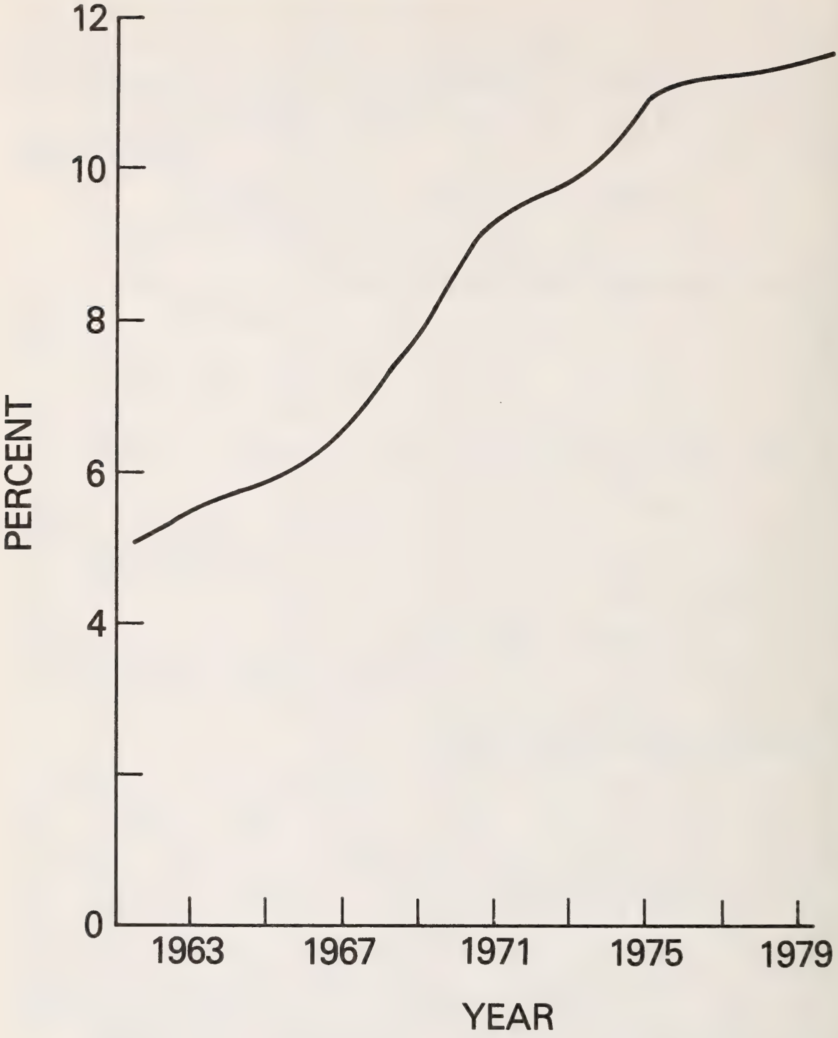

Figure 6. Average county council tax.

investment for health and medical care. Today, this is done according to structural priorities in the central health care policy rather than according to the actual supply of building labor.

It is important to note that control and steering from the central level are directed at initiatives already taken by the county councils. Central authorities can stop projects and plans from being implemented but they can take no initiative of their own, nor can they substitute their plans for those of the county council.

The county councils have almost complete responsibility for health and medical care in Sweden. The only exceptions are private practitioners who handle 25 percent of all outpatient care but no inpatient care at all, and industrial health which is handled jointly by employers and employees. The municipalities have certain minor activities in the health care field.

FINANCING THE COUNTY COUNCILS

The main source of finance for county councils is the direct, proportionate income tax. Its relative importance, however, has diminished during the last decade. In 1963 it amounted to 65 percent of the total income of the county councils; in 1974 this proportion was down to 54 percent. More important, however, is that county council income taxes today are so high that they influence central economic policy. This puts this source of income under close observation by the Minister of Finance. The right to levy taxes today is a right that can be exercised only within the framework of national economic policy. This has dramatically changed planning at the county level, since the possibilities of making long-term forecasts of national economic policy are somewhat obscure. This situation has led to demands for a total restructuring of the financing system.

In addition, some new features of national economic policy influence county income taxes. The national government is trying to control inflation through negotiations with the trade unions and by interference in collective bargaining. In these negotiations the trade unions have agreed to limit their demands on wage increases in return for a lowered state income tax. The national government then substitutes loss of income with payroll taxes. This affects the county council in two ways: (1) they must pay payroll taxes to the national government, and (2) their tax base does not increase as they had projected. They cannot, to be exact, benefit from the fiscal drag.

Another source of income for county councils is the tax equalization grants. These are intended to equalize local differences in income development and thus in the base for local and regional taxation. Tax equalization grants constitute about 9 percent of county council incomes. In some regions the relative importance is very high; 35 percent of the incomes for the northern counties come from equalization grants.

The remaining sources of income, government contributions, fees paid by patients, and payments from the social insurance agencies, are all decided by negotiations between the government and the Federation of Swedish County Councils. Increases in these sources of income tend to lag behind increases in costs because the Federation can call for negotiations only after costs have risen.

State subsidies for operating costs and investments are dominated by subsidies for mental hospital care. In 1967 the county councils took over the mental care system from the state and received state subsidies in return. The Federation of Swedish County Councils negotiates with the government every 2 or 3 years to establish the size of these subsidies.

Fees for health care are connected closely to the social insurance system. This includes health insurance, pensions, industrial injuries insurance, unemployment insurance, etc. The costs for health care in outpatient cases are paid mainly by insurance. The individual outpatient pays only US$3.50. The social insurance pays an additional US$16.00 to the county council. These two income items cover a great part of the costs for outpatient visits.

The percentage distribution of the external income of the county council in 1973 was as follows:

County council tax	55.5
Tax equalization grants	8.9
State subsidies	13.2
Insurance payments	5.6
Fees (from patients)	2.4
Loans	2.8
Miscellaneous external income	11.8

DEVELOPMENT OF COSTS

During the years 1963–70, the use of health and medical care increased (in fixed prices) by 8.5 percent annually. Operating costs increased by 8.5 percent annually and investments in buildings and equipment, by 15 percent annually. Between 1970 and 1973 the total rise of expenditure in fixed prices rose only by 3.6 percent per year. Investments declined by not less than 10.2 percent per year.

During the 1960s, county council expenditures expanded faster than the gross national product (GNP). In 1963 health and medical care claimed 3.5 percent of GNP; in 1973, 7.9 percent.

In current prices the cost of public consumption of health and medical care between 1963 and 1973 increased from 2,700 million crowns (US$1 = 4.40 Skr) to 11,400 million crowns. The increase was due to better quality, higher personnel density, and rapidly rising costs of personnel and materials. Of a total increase of costs per year of 16 percent, 1.5 percent can be attributed to an increased number of beds, 5.0 percent to more resources (mostly personnel) per bed, and 9.2 percent to rising costs for personnel and materials.

The increase in bed capacity should be judged against the background of the increase in population and particularly the number of elderly. This has taken place while the number of bed-days per patient has diminished rapidly. So the low figure of increase in beds is one sign of a considerable increase of capacity. On the other hand, it is important to point out that the increase in resources per bed can be attributed only partly to better resources for patient care. A general decrease in number of working hours affects this figure very much. It is important to note that changes in prices and wages—over which the county councils have limited control—take care of about 60 percent of the total increase of costs.

Price and wage increases have been larger for county councils than for most other employers. The main reason for rapidly increasing costs for county councils can be summarized as follows:

- The general trend in cost development. The annual cost increase since 1970 amounts to 8 percent compared to 4 percent during the 1960s. The tendency for the immediate future will be an even more rapid increase.
- Increasing value-added taxes and payroll taxes means substantial increases of tax payments from the county councils to the government. The value-added tax, for instance, amounts to 17.65 percent; when it was introduced in 1965 the rate was 10 percent.
- The transfer of certain social insurance premiums from employees to employers and the increasing rates of these premiums are extremely costly for county councils. The premiums—based on the total sum of wage expenditure—have increased from 13.6 percent in 1965 to 34.8 percent in 1975. Considering that more than 50 percent of the operating costs are wages, the importance of this development should be evident.
- Rapid wage increases. About 85 percent of employees are low-paid women. Equalization ambitions on the part of both government and trade unions for this group of employees are very costly for county officials.
- New responsibilities for administering health and medical care have been shifted to county officials.
- And, probably the most important factor in the long run, the number of old people is increasing rapidly. The 10 percent of the population over 70 years of age use 50 percent of the hospital resources. In 1975 there were 790,000 persons over 70. In 1979 there will be 890,000 and in 1985, 1,000,000. Moreover, not only are people over 70 more numerous but the most rapidly increasing age group is that over 90.

PLANNING AS AN INSTRUMENT FOR CONTROLLING RISING COSTS OF HEALTH AND MEDICAL CARE

General Aspects on Planning of Health and Medical Care in Sweden

It was pointed out earlier that a great part of the mechanisms that trigger the rise of the cost curve cannot be influenced very much by county councils. If the standard for patients is kept at its present level, the increasing number of old people raises the number of patients so much that the rising cost curve cannot be kept within the present share of GNP. Prognosis for age distribution makes it probable that such an increase of share of GNP will continue into 1990.

In this situation the major planning goal will be to allow a balanced growth of health and medical care to meet increasing demands. But a steady rise of share in GNP inevitably will start discussions in influential segments of society that might lead to a temporary halt in investments. Such tendencies can be seen clearly in many Western countries—as they can in Sweden. Experiences of sudden halts in steady growth are very negative. Demands for health care accumulate and after a very short period of time emergency measures must be taken. To get away from a stop-and-go policy probably is the most important function of health care planning in Sweden.

The institutional setting for health care in Sweden invites another trend of development. The fact that county councils feel a strong political pressure to increase their efforts and the lack of competing tasks and responsibility for economic policy in the hands of the national health authority can start an "overgrowth" within the health sector that can be controlled only by planning discussed openly in connection with plans from other sectors.

It is evident to most observers that the county council income tax cannot be raised indefinitely at the rate of the 1960s, but increasing demands on health care make some further rise necessary. A rise of the income tax, when a majority of taxpayers pay around 40 percent of their incomes in taxes, will cause problems. So a further expansion of health care may require a decreasing share for some other sector of the public economy: housing, roadbuilding, or defense. The central government must establish the priorities. For the county council, planning is the argument used to convince the government that we need more capacity. So the second function of county planning is to serve as a basis for negotiations with the central government.

Sweden traditionally has had a relatively small number of doctors. This fact has heavily influenced the structure of our health system. The emphasis of growth was on inpatient care; for a long time outpatient care was regarded as a luxury because of its extensive use of doctors. The rapid development of inpatient care and the slow development of outpatient care also was, to some extent, due to administration of these two forms of health care by different authorities. Inpatients were taken care of by the county councils, and their number expanded rapidly. Outpatient care was a very small item in the national budget, and its rate of growth was small. The state also was responsible for mental care. The mental hospitals were old and badly staffed. Therapeutic methods were old-fashioned and so were the living conditions for the patients. Both outpatient care and mental care were taken over by the county councils in the 1960s. The whole health system now can be planned by one authority—the same authority also is responsible for financing health care and implementing the planning. This situation has led to a strong emphasis on restructuring the health system. Such a restructuring now can be related to the needs of modern treatment as well as to the national—from an economic point of view—organization of the structure. The rational restructuring of the health plan, which is a third object of planning, requires more than just a plan. Overall, the interests of employment in far-off municipalities hold down the tempo of the restructuring process.

The final function deals with personnel. During a period of increasing demands for health care, the greatest problem is not how to build enough houses or to furnish them with enough beds, it is to train enough doctors, nurses, and nurses aides. Doctors and nurses have—or had—a national, even international labor market, so planning must take place on a national level. Planning for nurses' training is inadequate and—where it exists at all—takes place only on a regional level.

Nurses aides and untrained personnel have a regional labor market, so planning for them must take place on the regional level. But actually, planning takes place on a central level. Planning for the recruitment of untrained personnel is nonexistent so far.

Recent development shows that the possibility of recruiting on a regional and local labor market for nurses, nurses aides, and untrained personnel is diminishing in some regions—particularly in metropolitan areas where the need for expansion is greatest. Future personnel planners probably will have to deal not only with the dimensions of the training system but with the situation on the regional labor market as a whole. Some observers can see a future need to adapt the structure of health care not only to the needs and locations of the patients and the economic situation, but also to the location of potential labor. What effect this will have on health and medical care in Sweden remains to be seen. It is important to stress that an unbalanced personnel situation heavily influences the structure of health care and thereby, of the economy.

The Present Instruments of Planning

Economic planning is a continuous 5-year plan in the county councils. The yearly budget of a county council always is the first year of the plan. It is built around a three-part questionnaire sent to county councils from the Federation of County Councils. An operational plan specifies the quantity of such operational resources as beds, bed-days, outpatient visits, etc., for each institution. The operational plan now is being linked gradually to structural long-term planning. This part of the plan serves also as one base for an approximation of investment costs and costs for materials and services. A second part of the questionnaire deals with personnel. It is based on the operation plan, and it is now also linked gradually to the long-term structural plan. Knowing the number of part-time employees and eventual plans for shorter working hours, it is possible to approximate the number of recruitments needed for the operations planned. This could be used as a base for planning training and for planning recruitment, although the time perspective is somewhat short for certain categories of personnel.

The economic part of the plan summarizes the operational personnel plans in economic terms. Central recommendations from the Federation of County Councils on the income side of the plan make it possible to compute a preliminary tax level for the planning period.

Experiences of this planning system are fairly good. The estimates are fairly correct for the first 2 years but are gradually becoming more inaccurate for the third, fourth, and fifth years. The main reason for these inadequacies during the latter part of the planning period is the difficulty of linking together the 5-year plan with investment planning in the structural long-term plan. A second source of miscalculation is the income side of the plan. Government fiscal policy is changing rapidly from one year to the next. Making a good income prognosis, therefore, becomes increasingly difficult. Since a major point of the planning system is to forecast the need of tax increases, this is a very serious inconvenience.

Structural planning takes part both on the central and regional levels. The National Board of Health and Welfare expresses its "ideology" in the form of a general description of future principles for the health care structure. This plan of principles is regarded by the county councils only as an expression of attitudes of the National Board of Health and Welfare and not as binding. But, as we will see later, this central principle plan is not without consequences for the county councils.

Structural planning on the regional level is a fairly new system of uniform planning technique. A complete set of plans from all county councils became a fact only a year ago. The structural plan is made by the county councils themselves even if they get help fairly often from planning consultants. A fundamental feature of this is a complicated system of counseling in which many different organizations and local, regional, and central authorities are given a chance to express their attitudes to the future health care structure of the county. One such counseling authority is the National Board of Health and Welfare.

The structural plan operates with a 10- to 15-year time perspective. The structural plan tries to give dimensions and localizations of all health care resources in terms of a common terminology. In most cases, the actual planning has been built around working groups—often consisting of doctors—whose sectorial plans are discussed, changed, and amalgamated by a central project group in the county.

A preliminary version of the plan is sent for review, and the political executives of the county remodel it according to opinions that have been brought forward during the counseling period. It then is debated and decided upon by the county council.

Experiences so far are rather uncertain and vague. One problem is that it is very difficult to see the economic frames for planning over a 10- to

15-year period. There is a risk that the structural plan in some cases reflects more wishful thinking than realistic judgment of future resources. A second problem is that the plan seems too abstract. It is difficult for the public to debate. The goals presented in the plan are not linked too clearly to the qualities in the health care system that patients tend to value. No one can tell from the plan how long a patient will have to wait for an operation. Such information probably is more relevant to the public than are figures on the number of bed-days. A third problem is that the degree of uniformity still is rather low. This makes it difficult to aggregate the plans and to compare them. Much is still to be done to create a good base for arguing the need for more resources for health care.

Physicians are trained according to a plan worked out by the National Board of Health and Welfare in cooperation with the Federation of County Councils and the Swedish Medical Association. The legal background to this type of planning is that the National Board of Health and Welfare has the right to control the number of physicians who are given positions in public health institutions in Sweden. Only private practitioners—around 10 percent of all physicians—are excluded from this control.

The work underlying the program of distribution of physicians to various areas of the health care system has as its base the already mentioned plan of principles worked out by the National Board of Health and Welfare. From the principles in that report the number of doctors needed in various specialist areas and in primary medical care can be calculated. Knowing the needs for different types of physicians with specialist training, it also is possible to compute the number of training positions needed.

Weaknesses in this form of training planning lie in its basis. So far, the link between regional structural plans and this training plan has been weak. It may even be said that the present form of planning expresses different basic attitudes between the county councils and the central agency—the National Board of Health and Welfare. So far, it has been possible to bridge the gap between different positions. The plan that is working today has been agreed on after a period of intensive discussions, as was mentioned before.

Employment planning exists today at the county and district levels. The form of planning is still under development. To some extent, it is linked with the national 5-year economic plan. So far, the possibilities of using it in health care planning have been rather small.

Using the Planning in the Interplay Between Regional and Central Level

Control over the growth of health care expenditure can be exercised only in an interplay between regional and central levels. The county councils cannot judge the consequences of health care expenditure to the national economy, nor can they arrange for a balanced growth in the future without the assistance of the officers of the national fiscal system. On the other hand, it is important for the Minister of Finance to have self-governing units on the regional level to manage the health care system, and self-government in Sweden is equivalent to self support. If money comes from the government budget, a huge machinery for control has to be built up, and those who know the local needs—local and regional politicians—would lose their independent economic responsibility. The political pressure on the central government to add money to the health care system would grow dramatically, and demand would reach the central level lacking priorities and without the judgment of those who know the reasons for the demands.

Thus, the mutual interests of the government and of the county councils form a basis for negotiations. In this negotiation process, decisions are made for county councils to limit tax increases in exchange for higher state subsidies. In this negotiation, the government recompensates the county councils for the increases in payroll taxes which have been levied to keep inflation down. Such negotiations reflect a common agreement on the share of health care in the national economy.

The negotiations—which now take place every year—are based on the 5-year economic plan for the county councils described earlier. The results of this planning are aggregated to the national level by the Federation of County Councils and are used as a platform for the national plan of finance every year. The results are used as a base for government long-term economic planning and as a base for comparing demands from different parts of the public sector. Thus, this form of planning is well integrated into the total planning of the Swedish economy.

The 5-year economic plan for the county councils is also the base for government employment plans. Rising ambitions in employment have led to efforts to mobilize the last major group which is still outside the labor force—women between the ages of 35 and 60. The demand for this group as labor comes largely from the public sector and especially from the health care system. The need to raise employment and the need for more resources to the health care sector go together and underline the wishes of the county councils to get high priority for health care.

In the interplay between regional and central levels, the structural plan is used in the same context as the 5-year economic plan. The structural plan has been aggregated—as far as this is possible—to show the priorities of the county councils in the discussion of resources for health care. It might be said that the existence of structural plans is a guarantee to the government that the goals of the health care system are politically relevant.

CONCLUDING REMARKS

Planning of health care in Sweden has developed largely in answer to the needs for a balanced growth of health care expenditure and the need to restructure our system when organizational reforms made this possible. Many parts of the system of plans are still fairly new and their effectiveness has still to be proved.

Some important experiences of the planning system in Sweden that can be attributed to the planning form or the organizational setting around the planning can be distinguished:

- Those who plan also should assume the responsibility for implementation.
- One authority—the county council—covers the whole of the health care system. This has been very valuable for the planning process.
- The parts of the planning system that seem to be most effective and trustworthy today are those that link structure, operations, personnel, and economy.
- It is of fundamental importance that the planning system be aggregated to the national level. Only on this level can basic economic discussions be conducted and only on this level can the complete picture be seen. This calls for a certain uniformity in the planning system at the lower levels.
- Structural planning makes a rational health care system possible and focuses attention on the weakest link in the chain. It might very well speed up the cost increase rather than the opposite, because it tends to build political pressure for further investments.

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RECENT DEVELOPMENTS IN HEALTH PLANNING: LEGISLATION AND IMPLEMENTATION[1]

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Fogarty International Center

INTRODUCTION

Before discussing recent developments in health planning legislation in the United States, we must address the question of what constitutes health planning. Health planning encompasses health services, health manpower, and health facilities. Definitions of health planning abound, partly because planning is political and therefore depends on the organization of the health care system and the goals set by society. In one definition health planning is part of an integrated decision-making process whereby decision makers are presented with a set of possible alternatives based on priorities, costs, benefits, and constraints. Necessary accompaniments to this concept are established administrative structures, qualified staff, and an extensive information system (*1*:14). More appropriate for the American framework may be the incremental approach that views health planning as growing in importance over time as institutions change and develop. This paper discusses health planning as the way in which health planning agencies function, and it looks at the means that they use to implement changes in health planning legislation and goals (*2*:653).

This review begins with the history of earlier health planning legislation and its objectives, amendments, and shortcomings. The main portion of the paper deals with the National Health Planning and Resources Development Act of 1974 (Public Law 93-641), its organizational structure, incorporation of national health priorities, the consumer role in planning, and the relationship of existing federal health programs. Of particular interest, in view of the issue of cost containment, is the link in this law between planning and regulation. Final sections discuss the implementation of the law and indicate possible shortcomings.

HISTORY

Here we will review the Hill-Burton Act, the Regional Medical Program of 1965, and the Comprehensive Health Planning Act of 1966.

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[1] This paper was not presented at the conference, but was prepared later at the request of the editor.

The first major federal involvement in health planning dates from the Hospital Survey and Construction Act (Hill-Burton Act) of 1946. The Hill-Burton legislation created a federal-state health facility construction program aimed at increasing the supply and correcting the maldistribution of hospital beds. This goal was accomplished by allocating planning grants to state agencies to determine hospital needs based on Hill-Burton criteria. The Hill-Burton program then provided matching grants for a construction program. In 1964, areawide health facility planning councils were created to undertake more comprehensive health planning. Amendments to the legislation broadened the program to include modernization and redesign of existing facilities, development of ambulatory care facilities, access to medical care for the indigent, and shifts in financing from grants to loans. In an evaluation of the Hill-Burton program, Lave and Lave (*3*) found that the goal of increasing bed supply had been met and that in some areas a surplus existed. Although the Hill-Burton program was successful overall, inequities remained in the distribution of facilities in urban areas and in the access to care for the medically indigent. The surplus of beds can perhaps be attributed to reliance on mechanistic formulas of need and the failure of health facilities planning councils to represent consumer interests and to avoid duplication of costly facilities.

The objective of the Regional Medical Program (RMP), also known as the Heart Disease, Cancer, and Stroke Amendments of 1965 (Public Law 89-239), was to improve the quality of patient care by sharing medical research advances on the diagnosis of cancer, stroke, and heart disease among health care providers. Knowledge was disseminated through cooperative arrangements with medical schools, health care institutions, and researchers. Coronary care training and demonstrations were the most common methods used. The emphasis in the RMP remained categorical with the addition of kidney diseases in 1970. At that time, RMP legislation was extended for three more years. Thereafter, government priorities began to shift from a disease focus to one with emphasis on access to primary care, emergency medical care, and issues of comprehensive health planning. With passage of the Comprehensive Health Planning and Public Service Amendments of 1966 (Public Law 89-749), RMP could no longer be justified as a separate program (*4*:14–20).

The broad concept of health planning in the Comprehensive Health Planning Program (CHP) covered all segments of the health system: health manpower, health facilities, services, and the environment. This approach was intended to remedy the consequences of health planning used by the Hill-Burton areawide health facility councils (*4*:5–13). The objective of this program was to help Americans achieve the highest level of health care without interfering with the existing health delivery system.

The amendments organized health planning on two levels: Section 314a established state CHP bodies or "a" agencies, endowed with advisory councils and separate staff, and assigned areawide planning to Section 314b or "b" agencies. Section 314c of the legislation included training funds for health planners. State CHP agencies were required to develop and implement a state health plan. Areawide or "b" agencies were developed partly from former Hill-Burton planning councils and partly from newly established health planning bodies. Financing for "b" agencies was on a matching basis that gave some agencies a fundraising role with provider participation.

CHP agencies were authorized to review and comment on applications for federal categorical health grants in their areas, but their decisions could be overruled. CHPs also had review and approval responsibility for capital expenditures on new health facilities construction, expansion, or modernization through state Certificate of Need laws and the Section 1122 programs from the 1972 Social Security Amendment (Public Law 92-603). The state Certificate of Need laws attempt to contain health facility costs by approving only projects that are needed; Section 1122 is a federal-state program that denies reimbursement for the depreciation portion of maternal and child health and for Medicare and Medicaid expenditures not reviewed and approved by the state CHP agency (*5*:4–5). In Section 1122 health planning and regulatory roles are combined. A study of the CHP by the Comptroller General reported mixed results (*6*:42). Generally the review and comment processes were found to be ineffective, frequently because agencies were ill-informed or ignored. The review and approval role seemed more successful, although more sophisticated research by Salkever has weakened these findings (*7*:185–214).

In 1967, amendments to the law required the representation of local government interests on the "b" agencies, which were primarily private or nonprofit, whereas "a" agencies were public. In 1970, the CHP legislation was broadened further to include provider and health facility interests. Additional amendments in 1970 gave consumers a majority vote in decisions of CHP governing boards. However, studies indicate that in practice consumers were not the majority in attendance at meetings, providers tended to dominate the meetings, and consumer representatives reflected middle-class interests rather than those of all socioeconomic groups of the area (*8*:58–59, *9*:135–144).

In a study of comprehensive health planning, Waters (*10*) found great disparity between theory and practice, with the majority of agencies lacking health plans. These findings are consistent with the Department of Health, Education, and Welfare's (DHEW) evaluations of the CHP program. Serious weaknesses were found in staff, funding patterns, and federal implementation policy. These weaknesses result from the voluntary nature of health planning, ambiguities in federal health policy on the direction of comprehensive health planning, and the dominant role of health care providers in decision making. In 1974, building on the experiences of the three programs, Congress passed the National Health Planning and Resources Development Act, which combines mandatory planning and regulation, incorporates national priorities into health policy, and enlarges the functions of local, state, and federal health organizations.

THE NATIONAL HEALTH PLANNING AND RESOURCES DEVELOPMENT ACT OF 1974

Legislative Background

The passage of the National Health Planning and Resources Development Act of 1974, (Public Law 93-641), was aimed at changing and reshaping existing health planning. This legislation was needed because efforts to curb rising health care costs and expenditures had failed and because there were inequities in the distribution of manpower and facilities and services. The law also was designed to coordinate existing resources and to assure access to the health care system. In its report on Public Law 93-641, the House Committee on Interstate and Foreign Commerce emphasized the importance of greater federal involvement in setting health priorities, providing adequate financing and technical assistance to state and local agencies, integrating planning and implementation, and coordinating local health planning with other federal health programs (*4*:31-34).

The legislation has two major components: Title XV deals with health planning, and Title XVI provides assistance for medical facility construction and modernization based on a state medical facilities plan similar to the old Hill-Burton plan. Emphasis is on services provided rather than facilities used to provide them. This paper focuses on Title XV because Title XVI, Resources Development, will not be implemented until the health planning structure is fully operational.

The act establishes the National Council on Health Planning and Development, an advisory council, to assist the Secretary of DHEW in developing guidelines for national health planning policies and the means to achieve these goals. State and local health plans described below should relate to the national goals and must be based on the national health priorities specified in Public Law 93-641. These priorities include: (1) improved access to primary care for the medically underserved; (2) coordination of health services among institutions; (3) encouragement of group practices; (4) increased utilization of physician assistants; (5) shared health services among institutions; (6) improved quality of health services; (7) uniform cost accounting; (8) better consumer education; and (9) emphasis on the prevention of disease.

Health Systems Agencies

The act creates a new planning structure and vocabulary (Fig. 1). At the areawide level there are Health Systems Agencies (HSAs) which, in some cases, have replaced the former CHP "b" agencies. The state agencies are the State Health Planning and Development Agencies (SHPDAs), designated by the governor to replace the former CHP "a" agencies, and the Statewide Health Coordinating Commissions (SHCCs), advisory councils for the SHPDAs with representation from all State HSAs. Administration of Public Law 93-641 is vested in DHEW's Bureau of Health Planning and Resources Development.

To create a system of areawide and regional health planning, DHEW first established health service areas, i.e., geographic areas where the HSAs would function. The geographic areas were designated by the

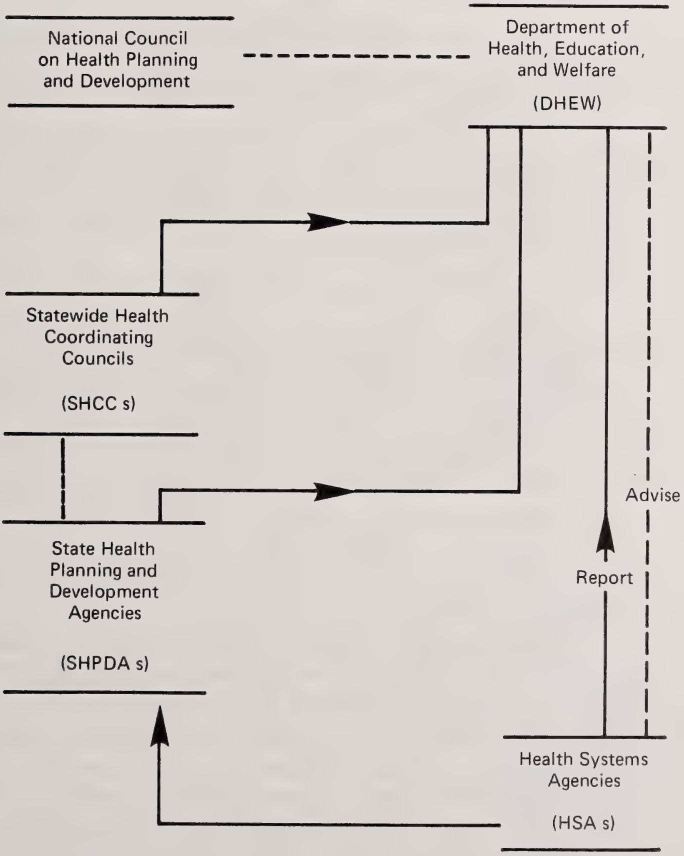
National Council on Health Planning and Development
Department of Health, Education, and Welfare
(DHEW)
Statewide Health Coordinating Councils
(SHCC s)
State Health Planning and Development Agencies
(SHPDA s)
Advise
Report
Health Systems Agencies
(HSA s)

Figure 1. Health planning organization under Public Law 93-641. [Reproduced with permission from *How P.L. 93-641 Affects Hospital Executives and Trustees* © 1975 Ernst & Ernst.]

governor of each state with the approval of the Secretary of DHEW and are based on population, availability of health resources, and coordination with existing geographic areas, including existing Standard Metropolitan Statistical Areas (SMSAs), Professional Standards Review Organizations (PSROs), and regional planning areas. In some cases, these areas cross state boundaries and do not coincide with CHP "b" agencies or PSRO designations.

Health Systems Agencies can be public or private nonprofit organizations that are not affiliated with an educational institution. The majority of the members of the governing boards of HSAs are consumers; the remainder, providers. Consumers must be broadly representative of the ethnic, racial, and socioeconomic composition of the health services area and cannot have been direct providers during the preceding year. The governing body oversees the work of the staff in internal matters of the HSA as well as developing the Health Systems Plan (HSP) and Annual Implementation Plan (AIP). The goals of the HSP, based on national guidelines for health planning to be issued by DHEW, are to improve the health system and environment of area residents and to increase accessibility and quality of care while also restraining cost increases. HSP must be approved by state and federal agencies. The AIP outlines how the goals of the HSP are to be met and reports on their implementation to the statewide Health Coordinating Council (SHCC).

Regulatory and review functions are the means by which HSAs can implement their HSPs while attempting to achieve cost containment. HSAs may participate in four types of review activities: (1) proposed uses of funds under federal programs, (2) new institutional health services, (3) existing health facilities, and (4) rate regulation of health care.

HSAs now have the power to review and approve or disapprove uses of federal funds under the Public Health Services Act, Community Mental Health Center legislation, and the Alcohol Abuse, Alcohol Treatment and Drug Abuse Program. DHEW serves as an appeal agency for the review and approval process. This sanction is an increase in power over the former CHP "b" agencies.

Public Law 93-641 requires states to pass mandatory Certificate of Need legislation to ensure that only services and facilities that are needed will be developed. HSAs assist SHPDA in a two-stage review of the need for new institutional health services under the Certificate of Need laws. The SHPDA then considers the recommendations of the HSAs in reaching its final decision. Every 5 years HSAs also review all existing institutional health services for appropriateness to the HSP and send findings to the state agency. The fourth potential HSA function, rate regulation, is optional since the act awarded grants to six states to conduct experiments to demonstrate potential effectiveness of rate regulation in containing costs (*12*:24–28). Although HSAs participate in regulatory functions, the main regulatory decisions occur at the state level.

State Health Planning and Development Agencies

The state Health Planning and Development Agencies or state Agencies, designated by the governor, participate in the preparation of the state Health Plan partly based on HSA plans for the statewide Health Coordinating Committee (SHCC); they also develop the Medical Facilities Plan. SHPDAs administer the Section 1122 amendments as well as the Certificate of Need program and make final decisions as to the need for new facilities and services based on HSA recommendations. They also review and publicize HSA findings on the appropriateness of existing institutional services; however, SHPDAs have no sanctions under the law to eliminate unneeded services.

Statewide Health Coordinating Council

The statewide Health Coordinating Council, the advisory council for the SHPDA, is composed of at least sixteen members, who are appointed by the governor. Sixty percent of the members are selected from nominees submitted by HSAs; a majority must be consumers. SHCC reviews and reports annually to the Secretary of DHEW on local health system plans and the budgets of each HSA. SHCCs prepare and revise the state Health Plan before submission to DHEW. In this way, SHCCs can ensure coordination between federal and community planning activities (*12*:28).

Other sections of Public Law 93-641 are designed to provide technical assistance to HSAs and other agencies through five Centers for Health Planning and the National Health Planning Information Center established by DHEW. This technical support will assist HSAs, once they are fully operational, in initiating their own proposals for reorganizing local health services.

Implementation

The National Health Planning and Resources Development Act of 1974 includes specific timetables for its implementation, but they have not always been met. Since the passage of this legislation, DHEW has almost completed the conditional designation of HSAs, and has selected all SHPDAs and 41 SHCCs. The National Council on Health Planning and Development is functioning; the national guidelines are under preparation. Before an agency receives final designation, it must have an HSP and an AIP and perform the functions of an HSA. Challenges to the constitutionality of the act are in litigation.

In the course of implementing Public Law 93-641, DHEW has made some changes in definitions and emphases from the original legislation. The term "organized ambulatory health facility" is no longer part of the definition of a health facility. This change means that capital expenditures by physicians and dentists in private or group practices are excluded from Certificate of Need laws.

HSAs must coordinate and share existing data and other findings with the PSROs. PSROs undertake reviews of the quality of care of Medicare patients; their data sources must be confidential. Agreements on data sharing are being developed between HSAs and PSROs since HSAs will consult with PSROs in the development of the HSP (*13*:50).

Observations and Conclusions

It is extremely difficult to project the effect of the National Health Planning and Resources Development Act on health planning and health costs. However, one can point out some inconsistencies in the legislation and its implementation that may create problems.

The tasks assigned to HSAs are extremely varied and complex. HSAs must handle plan development, project review, and resource development, all of which require skills that health planners have not yet developed fully. The goals in the law that relate to cost containment and improved access to care may be difficult to implement because they may be contradictory. Greater emphasis needs to be placed on coordinating health manpower planning and plan development to meet these two goals.

The main approaches in Public Law 93-641 for containing costs are planning and regulation. However, the exclusion of organized ambulatory health care facilities from Certificate of Need (CON) permits private physicians to avoid the review process. The possible consequences can be seen in the example of Computerized Axial Tomography (CAT) scanners that have been purchased by physicians without regard to HSA recommendations (*5*:3). It is of interest to note here that Health Maintenance Organizations are subject to CON review.

There are presently no sanctions in the law for eliminating unneeded and obsolete health facilities and services. This is especially problematic because a reduction in hospital beds not only reduces costs but may also encourage use of less costly alternatives to inpatient care. It is possible in the future that some of these problems might be alleviated by improving linkages between planning and rate-setting commissions. HSA project reviews, as well as data on financial feasibility and cost benefits of proposed technology, could be shared between HSAs and rate-setting agencies.

Consumers who sit on HSA boards have an important role in implementing and directing planning; however, the law as written is unclear about how members are to be selected; consequently, the procedure may vary among HSAs.

Federal involvement in developing health planning goals and in establishing and maintaining a consistent health policy is of primary importance. The need to counteract the political pressures between state and local agencies and other interest groups must also be recognized (*14*:587).

Some cause for optimism may be the requirement in the act for uniform cost accounting and simplified reimbursement for health care institutions which, if implemented, could contribute to cost containment.

Many inconsistencies in the law may be resolved by amendment when Public Law 93-641 comes before Congress for renewal in 1977-78. Other problems may best be considered in this light:

> We have left undone those things which we ought to have done, and we have done things which we ought not to have done, and there is no health in us.

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DISCUSSION V

MRS. DOROTHY RICE: We gain a better understanding of the National Health Planning and Resources Development Act (Public Law 93-641) when we look at it in the historical context of the rising costs of medical care to which this conference is addressed.

In the United States, as in other countries, medical care expenditures have been accelerating. Earlier health planning efforts exemplified by the Regional Health Programs enacted in 1965 and the 1966 Comprehensive Health Planning Act clearly did not have enough teeth in them. We recognize the maldistribution of medical facilities and manpower; the gaps in delivery of services; inadequate access to medical care by some population groups; and rapidly rising costs of medical care. The purpose of this new legislation is to attempt to develop a more effective approach to these problems.

As stated in its preamble, the purpose of this act is "to facilitate the development of recommendations for a national health planning policy, to augment areawide and state planning for health services, manpower, and facilities, and to authorize financial assistance for the development of resources to further that policy." The law will be implemented through the creation of a national network of local Health Systems Agencies (HSAs), State Health Planning and Development Agencies (SHPDAs), and Statewide Health Coordinating Councils (SHCCs). Special emphasis is placed on local health planning by giving unprecedented control over health service development to the local and state health planning agencies. The Department of Health, Education, and Welfare is involved actively in the establishment of these various mechanisms for accomplishing the purpose of this legislation.

The first section of the health planning law calls for the issuance of guidelines concerning national health planning policy. These guidelines will set forth national health planning goals and standards relating to the appropriate supply, distribution, and organization of health resources.

While we have not completely formulated all of the goals, a draft of the guidelines for a national health planning policy has been prepared for public comment and review.

Let me give you an illustration: In the area of general hospital bed supply, we have a statement of standards that the ratio of short-stay hospital beds to population should be less than 4.0 beds per 1000 persons. This is an effort to reduce the current United States average of 4.4 beds per 1000 population.

Another example is the proposal that the infant mortality rate should be less than 12 per 1000 live births for the nation, compared with the United States rate of 16.1 per 1000 live births in 1975. These are national goals that will need to be adjusted at the local level, depending on specific demographic and socioeconomic conditions in the area.

How do we anticipate what will happen in the future? By comparison with the baseline data that we have, we expect to look at the resources as well as expenditures in the future to see whether we will have accomplished these goals at both the local and the national levels. We cannot attain these goals at the federal level without a clear understanding of the local needs. To be successful, this process requires regionalization and decentralization to some extent. By working closely with local and state agencies, we hope to go a long way toward promoting alternative methods of delivering health care. At the same time, we need to set limits on the unplanned growth of health care facilities, especially when that growth will duplicate existing facilities and increase unnecessarily the cost of health care to the federal government and the American people.

Methods and rates of implementation at the local level will vary. We recognize that local areas need to have direct involvement and participation in health planning for it to be a success. The excitement that was generated by the designation of these HSAs together with the active roles of state governments in health planning indicate that there is much interest at state and local levels.

There also is a recognition that community interests need to be involved in health planning activities. The purpose of the local HSA is to improve the health of residents of its health service area by increasing the accessibility, acceptability, continuity, and quality of the health services provided to them. At the same time, the HSA is attempting to restrain increases in the cost of providing these health services as well as preventing unnecessary duplication of health resources. In accomplishing this ambitious mission, the HSA is expected to "assemble and analyze" health data for its area, develop and keep current a health plan that determines priorities among its recognized goals and objectives, and also implement the plan by seeking assistance from individuals and agencies in its area, by providing technical assistance, and by review of proposals for health facilities and services related to the plan. The job is big and expectations are high. It is in our best interests to give this planning process every opportunity to reach its greatest potential.

DR. DAVID SALKEVER: What struck me in studying this area and in going through other research was that the problems with our past history may have been not so much problems in legislation as very practical problems in implementation, problems in the kinds of resources that people had to deal with, problems in the politics of the planning process.

I wonder if Mrs. Rice would comment on how she sees the new planning legislation altering the practical circumstances and whether those changes are beneficial or harmful for the implementation.

MRS. RICE: It is difficult to predict the effects of the new planning legislation and its implementation at the local level. There is no doubt that the local areas need to become deeply involved in the planning. The degree of that involvement will make a difference in the extent of attainment of these goals.

The excitement generated with the designation of these HSAs and the role of the states and the federal government in this activity indicate that there is a growing interest at the state and local levels. The states want to participate in the decisions to be made for improved health care for the nation. This interest at the state and local levels is an extremely important factor in the success of this legislation.

There is also the recognition that the community has to be involved in the health planning which is being taken into consideration in the activities of the Health Systems Agencies.

DR. VICENTE NAVARRO: In regard to issues of control, my perception is a little different from what has been presented here. The difference is that when we say local or state, I think we have to be extremely careful about the precise meaning, because sometimes when we say community, well, what exactly is the community, and who within that community is going to represent it?

The planning legislation in this country, as in Britain, bypasses state and local governments. I think that the ad hoc regional committees are accountable directly to the central government. At this point, the state and local governments are taking the federal government to court because they consider this arrangement, i.e., this bypassing of the local government, to be unconstitutional and actually to represent centralization.

Now, when we speak in terms of local involvement, I have a different perception of what this means. The issue, in my opinion, is the power structure of the local communities, and the control of those planning agencies.

This raises a larger issue. All the regionalization in Sweden is very fine on paper, but Sweden is not regionalized. The regionalization plan has not been fully implemented. Again, I think the basic issue that is raised is, Who controls the planning machinery? We find, in most of the countries of which I am sure, that professional groups, primarily academic-based physicians, are directing the planning machinery. This happened in Britain as well as in Sweden. Most of the advisory committees are made up of the "prima donnas" of the medical schools, advising as to the norms and the standards. The same is true, incidentally, in this country.

I think here is where that issue of control or the professional or class dominance is going to prevent any major changes from taking place.

But who are the consumers, Mrs. Rice? I think that the law is extremely vague on this question. We have consumers, and they basically are people in one way or another who are interested in, although not formal representatives of, the health industry, or else they are people to whom the governor owes a favor. For the most part, it turns out that at the moment of key decisions, the providers are there and the consumers are not.

I am afraid this is also going to happen now. In my own experience, the consumers who have been most effective have been those who are accountable to a constituency, be they labor representatives, church representatives, or someone who has to go back to an office or an agency and justify his performance. But this is more the exception than the rule.

Mrs. Rice: The National Health Planning and Resources Development Act is specific about the governing body for HSAs. The governing body is composed of 10 to 30 members, the majority of whom are to be consumers of health care and the remainder are to be providers of health care. If not more than 25 members of the governing body meet the requirements, they may be established as the executive committee. This committee membership is limited to residents of the health service area and includes public elected officials and other government representatives as well as representatives of health agencies. If the executive committee is established, the size of the governing body may exceed 30 members, but a majority still must be consumers of health care.

Dr. Salkever: The other point I would like to make is that although "consumers" may be accountable to a particular constituency, that may be much narrower than the general population of the areas served.

Dr. Malcolm Taylor: The point made by Mr. Örtendahl that impressed me was that in his system people who make the decisions are going to pay for them. Dr. Van Langendonck earlier made the point that we can make the necessary decisions collectively. The question is, which is the collective that is making the decision. Under our [Canadian] system, which is centrally financed, the interest of the local government and communities is to get as much as possible. We had an act such as yours when we drafted the Hospital Services Commission Act for Ontario in 1956. The first objective was to develop a balanced and integrated system of hospitals. The second was to administer the then-existing Public Hospitals Act, and the third was to develop a hospital insurance program. But the planning came first, and the Planning Commission was set up 2.5 years before hospital insurance went into effect.

Then we had the necessary information. We knew where every patient went and who were every hospital's clientele, and its trading area. We developed an ideal master plan. But 20 years later we have a surplus of beds and a government that is trying to close some hospitals and reduce the size of others. One wonders what went wrong with the planning.

It seems to me that we failed at the federal level, where officials should have said, we will match, as they did, 50 percent of the insurable costs to a maximum of X number of beds per thousand or X number of admissions per thousand. If a province desired a greater volume one would have the Swedish situation, that is, local areas should pay for whatever they want beyond a national standard minimum that meets essential needs.

MR. WILLIAM MENNIE: If we had tried that, the program never would have gone into effect at the time. I think that is something we should be looking at today, but I do not think it was in any sense practical 15 or 20 years ago.

DR. GORDON HATCHER: If a rate had been set, it would have been set at 5.5 beds per 1000 for hospital insurance, which is what we have now.

DR. PAUL GERTMAN: I think so-called "health planning" in this country, particularly of facilities, often is a disaster.

When this new planning legislation was enacted, hospital people groaned. They said, "No, not another group who has veto rights and will not help us in doing anything positive. We cannot get a dime of front-end money to rationalize anything that we are doing. But they can keep us from operating in an efficient way."

I think that at the hospital level all we are going to get from this act is increased collusion, decreased competition, and inefficiency.

DR. IRVING LEVESON: I am impressed by the extent to which so many countries are in the relatively early stages of installing their planning processes. The lack of experience seems to be universal.

The critical issue in setting up a hierarchy of planning agencies is determining where in the process the budget constraint is imposed. One of the problems with the local planning experience in the United States is that community groups tend to be advocates for more money. If they do that too much, they abrogate responsibility, and decisions are made instead at the state or federal levels. I hope for some changes in this tendency, but recent improvements may reflect current fiscal conditions. Then local agencies may go back to what they did previously.

Another issue is the type of planning we want. Those of us who have been involved in online decision making know that there is a great deal of value to incremental planning over end-state planning.

The U.S. law provides for an Annual Implementation Plan as well as a Health Systems Plan. But a lot of things must be made explicit when plans are written, and sometimes a much more flexible process is necessary.

Finally, there is a tendency to overcentralize grossly the decision making process, and then complain that we do not have adequate methodologies. We do not say the problem is the overcentralization but rather that it is the methodology in determining bed-population ratios and such that is limiting.

PART VI
ALTERNATIVE POLICIES

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POLICIES FOR CONTAINING HEALTH CARE COSTS IN CANADA

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BACKGROUND CONSIDERATIONS

In Canada, national health insurance refers to two separate government programs for universal prepaid hospital care and universal prepaid physician services. These are shared-cost programs financed jointly by federal and provincial governments. In addition, other health services for persons in financial need, along with income maintenance payments, are cost-shared under the Canada Assistance Plan.

The primary constitutional responsibility for health care rests with the 10 individual provinces. Direct federal jurisdiction is limited to a few groups such as Indians and Eskimos, and certain specific services such as quarantine, immigration, and food and drug control. Nevertheless, the federal spending power, which includes the right to make payments to the provinces, has brought about a step-by-step development of national health insurance. Federal financial contributions were authorized by the Hospital Insurance and Diagnostic Services Act in 1957 and by the Medical Care Act in 1966. Participating provinces remain responsible for program administration and development, but in order to receive federal financial contributions, each province must meet certain national standards with respect to basic hospital and medical services that are contained in federal legislation and regulations. Additional universal benefits in the areas of dental care, prescribed drugs, nursing home care, and paramedical services (and various other areas) are provided by some provinces from their own financial resources.

COST TRENDS

Health care costs have risen significantly as a proportion of economic output during the past 18 years as shown in Table 1. Whereas aggregate hospital care costs represented 1.8 percent of the gross national product (GNP) in 1957 (the year preceding commencement of implementation of the federal hospital insurance legislation), the percentage had reached approximately 3.5 by the year 1975. In the case of physician services, the percentage was 0.8 in 1957 and 1.3 in 1975. Other personal health care services (combined) have risen from 1.2 to 1.7 percent over the period.

TABLE 1

PERSONAL HEALTH CARE EXPENDITURE[a] AS PERCENT OF GNP

	Hospital Care	Physicians	Other	Total
1957	1.8	0.8	1.2	3.8
1961	2.4	1.0	1.3	4.7
1965	2.6	1.0	1.3	5.0
1971	3.4	1.3	1.5	6.3
1975	3.5	1.3	1.7	6.5

[a] Excludes expenditures on health administration, public health, training and research, and health facility construction.

[b] Preliminary.

Hospital care cost increases (annual growth rates) were high—about 15 percent—during the implementation years of hospital insurance from 1958 to 1960. During the early 1960s, hospital cost increases leveled off at 11-12 percent, while physician costs were growing at about 10 percent annually. During the latter part of the 1960s, hospital cost increases moved back to 15 percent, while physician costs moved up to about 15 percent during the medical care implementation years from 1968 to 1971. Subsequently, there was a drop below 10 percent in both hospital and physician cost increases in 1972 and 1973, followed by higher growth rates in the inflation years of 1974 and 1975.

The introduction of national health insurance was motivated primarily by considerations of equality of access to basic health services and removal of financial barriers, with less emphasis on cost containment problems. Expenditure levels and trends were affected by the sequence of introduction of the two insurance programs, by the perception of resource shortages and need for "buildups," and by gradual implementation and the "phasing-in" pattern of participation by the provinces. The earlier implementation of hospital insurance (1958-61) tended to focus development on expensive inpatient care; the subsequent medical care program (1968) also emphasized high cost physician services, but impacted slightly on hospital costs as an ambulatory care alternative. Both programs were preceded or accompanied by a federally stimulated buildup of health facilities and personnel resources; a "national health grant program" (including a Hospital Construction Grant) prior to hospital insurance; and a "Health Resources Fund" that accompanied medical care insurance. Finally, the lengthy process of negotiation and planning, legislative enactment, and subsequent implementation, together with the gradual process (approximately 3 years each) by which provinces entered the federal-provincial arrangements provided ample opportunity for suppliers of services in the different provinces to develop "leap-frogging" techniques in bargaining over payment arrangements and amounts. All the above-mentioned factors formed part of the setting that reflected an emphasis on "development" more than "cost containment."

BASIC PROGRAM DESIGN

Basic program design of both national hospital insurance and medical care was influenced strongly by prior developments in the province of Saskatchewan, which demonstrated that universal coverage plans providing comprehensive services could be financed at reasonable cost without seriously disturbing existing health care delivery structures. In order to be eligible for federal financial contributions, provinces were required to meet minimum criteria relating to comprehensiveness of benefits, universality of coverage, accessibility of services, portability of benefits among provinces, and administration by a public authority on a nonprofit basis. General acceptability of the federal proposals was strengthened by the absence of intent to alter the delivery system based on the local voluntary hospital and the fee-for-service practice of medicine.

In the case of hospital insurance, sharable costs related to standard ward care in acute- and chronic-treatment hospitals, (thereby excluding mental hospitals, tuberculosis sanatoria, and custodial care institutions which in most instances already provided free care at provincial expense). All basic inpatient services were included (laboratory, radiological, and other diagnostic procedures), together with the necessary interpretations; services of interns and residents were covered. Insured outpatient services were optional but now virtually all provinces provide a wide range of services.

In the case of medical care, all medically necessary services of physicians are included as benefits. Patients have free choice of doctor, and doctors have complete freedom in choice of patient. Costs are averaged, so that high-risk or high-use beneficiaries do not pay more in premiums or taxes. There is no experience rating nor are there exclusions for preexisting conditions.

The emphasis on universal accessibility to high quality services strongly influenced the nature of the financial sharing arrangement. Fundamentally, it was an open-ended, cost sharing formula, without any ceiling on the federal financial contribution, which meets approximately 50 percent of the cost. To encourage improvement of services in poorer provinces, a degree of equalization was built into the formula, so that lower-cost provinces with undeveloped services would receive a higher percentage share. In the case of hospital insurance, the federal government pays 25 percent of the provincial per capita cost, plus 25 percent of the national average per capita cost, multiplied by the covered population of the province. In the case of medical care, the federal government pays to each province 50 percent of the national average per capita costs of the insured services of the national program times the average for the year of the number of insured persons in the province. This means that high-cost provinces receive a share of their costs which is lower than 50 percent, while the low-cost provinces get more than a 50 percent share of their costs.

Costs are financed on a pay-as-you-go basis and are met largely from general taxation both from federal and provincial levels, although a few provinces impose premiums (i.e., head taxes) to cover part of the cost.

APPROACHES TO COST CONTAINMENT

The escalation of health costs in the late 1960s, already mentioned, eventually precipitated a variety of initiatives in the direction of cost restraint. In part, these were intensification of control measures by the provinces that were already part of the program design, and in part there was a search for new approaches that might reverse certain trends. Both federal and provincial governments were involved.

The first major effort in these directions was the establishment of the federal–provincial Committee on the Cost of Health Services in 1969. Its series of task force reports on ways of achieving cost efficiency and effectiveness was followed by a national study of community health centers and a variety of special studies in the provinces. In 1970, new health financing negotiations were begun by federal and provincial governments, leading to a variety of suggestions for improving health cost sharing arrangements. Although much of that discussion has proved abortive, there are now indications that major changes are in the offing.

I will mention these further while discussing actions on cost restraint in Canada under the following six headings: payment of suppliers of service, restrictions on health resources, substitution of lower cost alternatives, charges to patients, cost-sharing arrangements, and new perspectives on health.

Payment of Suppliers of Service

Payment arrangements with the independent hospitals and physicians are a provincial responsibility, and federal health legislation leaves the details of payment methods and controls to the discretion of the provinces.

In the case of physicians, subsequent to the program implementation years, indications are that the provinces have been reasonably effective in limiting cost increases. Provincial health authorities establish the payment schedule, but have interfered minimally with the unit definitions and relative values of different items as determined by the professional associations which retain control over the fee schedule structure in each province. There is a tendency toward multiplying the units of care and altering the mix of procedures in favor of high cost items. The ability of the physician to manipulate utilization increases is somewhat curtailed, however, by the capability that provinces possess of constructing physician-practice profiles from data arising from the claims submission process. Provincial claims review procedures and peer review controls probably have achieved some cost containment, in addition to preventing flagrant abuse and some poor quality care. Similarly, governments possess information on physician earnings and practice expenses (from income tax studies), and on the cost impact of fee-schedule changes, which assist the provinces in limiting price increases arising from payment schedule negotiations.

The budget review process for controlling hospital expenses (prospective budgeting) has been tightened in recent years by stringent limits on expenditure increases for existing and new services. Attempts to reduce inpatient days of care by reducing average length of stay have not been particularly successful except in the context of restructuring hospital activities by substituting other forms of care. For example, development of the medical care program and growth of outpatient services appear to be having some impact. Basically, the local voluntary hospital has resisted cost control measures, tending to compete with its neighbors in providing higher quality care, a broader scope of service, and more patient days. Nevertheless, provincial governments have been steadily intensifying their efforts to remove duplication, consolidate services, and encourage regional and local planning.

While growth of staff-patient ratios has been stabilized, salary and wage growth has increasingly become the major cost containment problems. Separate province-by-province bargaining has facilitated the interests of hospital workers with increasingly adverse effects on hospital cost inflation. In the early 1960s, changes in wage and salary rates were accounting for about 25 to 30 percent of hospital cost increases, but by the end of the decade, the figure was 60 percent and wage levels had "caught up" with comparable occupations in other sectors of the economy. After a brief leveling-off phase, hospital wages and salaries moved ahead very rapidly in 1974 and 1975; hospital workers joined the "pace-setters" for the economy, and hospital wage increases were accounting for about 70 percent of hospital cost growth.

National action on the inflation problem finally occurred in October 1975 in the form of a wage and price control program for the whole economy that covers professional fee incomes as well as salaries and wages. Early indications are that this general anti-inflation program will have a major impact in reducing the rate of health cost escalation.

Restrictions on Health Resources

Earlier policies designed to remedy so called "shortages" of active-treatment hospital beds and physicians now have been reversed. The first straw in the wind was the termination of the federal Hospital Construction Grant in 1969. Provinces then began to scrutinize new construction proposals much more closely, and the growth of the active-treatment bed-population ratio to about 5.5 beds per 1000 population came to a halt. More recently, the bed-population ratio has begun to drop, partly because population increase has not matched bed construction, but partly also through direct closures of beds in some provinces.

At a federal–provincial conference in January 1975, provincial health ministers agreed to negotiate restraint in the growth of high cost services in return for extensions of federal sharing for lower cost alternatives. This exercise has involved the development of targets for reduction in the growth of hospital beds and physician supply by 1980 within each province, and commitments to these targets by the provinces. Negotiations have not yet been completed, but most provinces already have initiated restrictive action.

It has become increasingly apparent that the rapid growth of physician supply is a major factor in the growth of medical care costs. The overall, national physician-population ratio has changed dramatically from 740 persons per physician in 1968 to 595 persons per physician at the end of 1975. In response to this situation, the federal government has supported a national study of physician requirements in the various specialities and has adopted measures to restrict immigration of physicians.

Substitution of Lower Cost Alternatives

In 1970, the Task Force Reports on the Cost of Health Services made many recommendations for restructuring the health delivery system to achieve cost efficiency and effectiveness. Various provinces launched initiatives with respect to regionalization of health services, development of ambulatory care centers, establishment of home care programs, and development of insured nursing home intermediate care. A new federal Health Research and Development Program was another outcome of this new emphasis on discovering and developing ways of improving the organization of health services.

For the most part, the lower cost alternatives are not cost-sharable under existing federal health legislation. Accordingly, in 1973, the federal government offered a 5-year Trust Fund to the provinces for new initiatives in health care delivery as part of a proposal for new health financing arrangements. When provinces subsequently rejected the proposed package deal, a new attempt was launched in 1975, as already mentioned, to negotiate extension of federal sharing for lower cost alternatives in return for provincial commitments to targets for reduction of active-treatment bed-population ratios and numbers of physicians. Early in 1976, this exercise resulted in a federal offer to consider extended health sharing for: nursing home intermediate care, home care programs, and ambulatory care services (including community mental health). Simultaneously, negotiations were underway with the provinces on a new Social Services Act that will assist provinces in developing other areas of health and social services, mainly on an income-tested basis.

Charges to Patients

Under existing federal health cost sharing legislation, direct patient financial participation through cocharges at the time of service is discouraged but not precluded if it does not interfere with accessibility to services. The federal government shares 25 percent of cocharges in the case of hospital insurance, but in the medical care program, sharable costs are reduced by the full extent of provincial cocharges; deductibles are not permitted within the federal guidelines.

With respect to physician services, the only attempt to impose cocharges was in Saskatchewan from 1968 to 1971. There was some negative impact on utilization (in the short run only) by low income and elderly persons. It was very unpopular politically.

In the case of hospital care, there has been increasing interest in cocharges, paticularly with respect to the room and board component in long-term care. The twofold objectives are: first, to avoid duplicate public spending on universal old-age-income security and long-term hospital care costs; and second, to avoid the strong incentive for patients to remain in high-cost facilities when their care needs could be met more appropriately in lower cost accommodations or at home. A number of provinces have introduced such charges.

Cost Sharing Arrangements

For a number of years there has been increasing concern about the open-ended nature of health cost sharing arrangements (federal point of view) and the absence of flexibility in spending priorities (provincial point of view). This issue prompted a search for a new health financing arrangement, which led in 1973 to a federal offer of a new formula for health sharing contributions related to GNP growth. The concept was that of a base-year cost related to existing federal contributions to be escalated by a GNP factor divorced from existing sharable cost increases, but sufficient to provide a reasonable rate of growth in the basic federal payments. Under such an arrangement, for a predetermined block per capita grant, all benefits from cost savings would accrue to provinces, and there would be no further incentive to focus provincial spending on cost-sharable services. An important condition attached to the offer was that existing national standards of universality, comprehensiveness, accessibility, portability, and public administration were to be retained with respect to the basic hospital and medical services.

The provinces eventually rejected the federal offer (which also contained some tax transfer features) and advised that they were prepared to negotiate changes in cost sharing of high cost services in exchange for federal sharing in health programs not now supported. Negotiations along these lines were interrupted in June 1975 by two specific measures affecting hospital insurance and medical care which were announced in the federal budget. The first was an announcement of the necessary 5-year notice of intention to terminate and replace existing federal-provincial agreements under the Hospital Insurance and Diagnostic Services Act. The second was an announcement of intention to amend the Medical Care Act to impose ceilings on the amount of escalation of medical care costs that would be accepted for sharing purposes over the next several fiscal years.

As a followup to these developments, the federal government has proposed recently to the provinces that a joint federal-provincial health review be undertaken, involving a comprehensive assessment of health policies, programs, and financial arrangements with view to developing new federal health legislation by 1980. Federal policy on shared cost programs also is being examined in the general context of federal-provincial fiscal arrangements.

New Perspectives on Health

But the role of the federal government is not limited to financial arrangements, nor even to encouraging the more efficient operation of the health delivery system. Increasing attention is being directed to cost containment through the development of preventive and health promotion programs. Reflecting this concern is the new Departmental "Bible" published in 1974, *A New Perspective on the Health of Canadians.* This working document uses the "health field concept" as a conceptual framework for identifying the four broad elements of human biology, environment, lifestyle, and health care organization.

The central message is that improvement of the health status of the population can be worked on from other perspectives such as health promotion, attention to the health environment, and modification of lifestyles. With respect to action, a federal-provincial committee is looking into a number of areas which will yield the greatest return in terms of the improvement in the health of Canadians and reduction of the costs of the health delivery system. Three priorities identified thus far are: traffic injuries, occupational health, and alcohol abuse. Clearly, these problems extend far beyond the traditional areas for action by health authorities; already results are being achieved in such areas as compulsory automobile seatbelt legislation in various provinces. Perhaps over the long run, this approach will prove to have significant new potential for the containment of health care costs.

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POTENTIAL OF COST CONTAINMENT IN THE UNITED STATES

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When national health insurance schemes were first inaugurated in all countries, the objectives were to free the public from costly medical care episodes and to improve access to health services. Cost controls or indeed even the reorganization of the prevailing health service structures were not part of the underlying objectives. Even in the United Kingdom, where the deterioration of the hospital physical plant during World War II resulted in the expropriation and regionalization of health service structures, the National Health Service (NHS) was evolutionary, emerging from deep roots in British history, e.g., the tripartite structure. I like to regard the NHS as instant incrementalism when pent-up historical developments frozen by World War II suddenly broke loose.

Even in as highly structured a health service system as the NHS, it is only during the past few years that the United Kingdom has consciously considered detailed controls beyond the annual budget increments which, in effect, perpetuated the structure and distribution of services between regions as of 1948. All systems, including the loosely structured one in the United States, are feverishly working toward controls on costs of one kind or another. Because of the historical circumstances of rising costs before the enactment of national health insurance, the United States is trying to institute controls in order to be ready for it. I will attempt to describe them as they appear in combinations in the various health services systems.

Possibly the primary classification is the change from controls mainly on the patient to controls on the provider. The trend seems to be to control both equally, a novel form of equality. I would observe that within the range of national health systems, the United States currently represents a system with controls on the patient for out-of-hospital physicians' services, and the United Kingdom represents a system with controls on the providers. I mention the United States because of its charges to the patient at time of service, and the majority of doctors who are on a fee-for-service method of payment with no fixed-fee schedule. I mention the United Kingdom because of the salary and capitation method of paying doctors and some negative control over their distribution. Still, a control on the patient is the limitation to one entry point, the general practitioner. This makes the system easier to manage than systems with alternatives for points of entry.

The greater the centralization of finance and the more structured the system, the greater is the tendency to use the budget as the ultimate control on everyone in the system. The actors sort themselves out somehow within this framework. There is little need for detailed regulations on supply or reimbursement or, indeed, for an imposition of charges on the patient at time of service. The opposite is, of course, true of systems with a variety of sources of funding, decentralized responsibility both financially and administratively, and open-ended reimbursement methods to providers.

A problem common to all systems, and inherent in the animal called health service, is the paucity of systems performance indicators. We are unable, except in exceedingly crude ways, to relate input and output, not to mention throughput. It seems to me that policy makers and even academicians talk as if there were indicators. To admit that there are none throws us all into the negotiating and bargaining arena—broadly speaking, the political arena—rather than into the tidy, aseptic economic and cybernetic models where validated specifications are assumed and all participants are reasonable, i.e., automatons. Even if there were validated performance indicators, we would still face the problem of trade-offs and priorities.

What we can measure, however, and well enough for policy purposes, is the degree of access to services by income classes and the extent to which the overall tax burden is shared. These are sociopolitical performance indicators with little reference to health indexes. We need to know more about convenience or inconvenience of services. No system, for example, pays any attention to the administrative manipulation of the queue. We are obsessed with measuring health levels as related to the quantity of health services when the evaluation methodology is unequal to the task. There are, in terms of the whole, minor exceptions for highly specific diseases as to diagnosis and treatment.

After a morbidity and mortality pattern have attained a pattern characteristic of developed and industrialized countries—heart disease, cancer, stroke, and accidents as leading causes of death, rather than tuberculosis and intestinal tract diseases—the systems shift emphasis from cure and prevention to care and management of intractable and subtle conditions requiring a variety of attacks on the problems. There are certainly life-saving and life-prolonging (no matter how short) surgical techniques which repair and restore bodies while requiring a complicated and expensive medical technological infrastructure out of all proportion to results that can be measured in the morbidity and mortality rates of the general population. I do not see this infrastructure being dismantled whether it is shown to result in a collective good or not. Individuals surface here and there who would die if they were not plugged into the machinery; and the resulting publicity, if care is denied, raises a storm.

I may be digressing too much at this point, so I will get back to the main theme of alternative policies for containing health care costs. All systems are moving in the direction of more structure, boundaries, and restrictions on use, expenditures, and supply. All systems are moving toward some form of planning and arbitrary budget limitations. Indeed, there seems to be no other alternative. It is conventional wisdom and requires no particular expertise other than political bargaining. No system has yet a systematic body of experience with these cost containment mechanisms. We need to wait 10 years and reassemble here. We do not know yet the nature of the dynamics within more controlled systems. We have experienced only the dynamics of expansion when everybody gained something, naturally some more than others. We can be sure of one thing: As long as people want to live as long and as painlessly as possible and strive for equality, the pressures on the systems will continue. Each country will be pushing on its GNP. There is a lot of discretionary economic and political choice, given our lavish consumption patterns. In this connection, it is sobering to observe that I have found no relationship in the level of expenditures between systems regardless of ownership, sources of funding, and organizational structures. The level of expenditures is a function of the social and political priorities for health services. Naturally, a highly structured and centralized system is more conducive to tight budget controls, if desired. Lacking performance criteria, the range of expenditures is very wide regardless of system; therefore, all systems work as long as they are tolerated within the political priorities.

Quite recently the hope has been that changing to more healthful lifestyles will in turn reduce the pressures on the health services from heart attacks, lung cancer, strokes, and accidents. There also is a growing conventional wisdom that the public should reduce its dependency on the health service system and lick its psychological, if not its physical wounds, with its relatives, friends, and the attenuated religious institutions. Consequently, I hear frequently that the public should be provided what it needs rather than what it wants, even if the public is willing to pay for it through the public sector or buy it from the private sector. I feel that there is a worrisome tendency for managers, doctors, and politicians to enter into benign collusion against patients. Otherwise, the concept of ombudsman would not have emerged. The ombudsman is supposed to be the bureaucracy-buster for the patient; I would prefer that the patient's doctor be the bureaucracy-buster.

I hope that lifestyle—short of murder, rape, and embezzlement—will continue to be a matter of personal choice even if it kills the individual. I am talking about personal habits which may be pleasurable to the individual but possibly expensive for the collective. The health system should continue to serve both the saint and the sinner. I do not want to see the health system become the moral regulator of society. Certainly, the public needs to be given valid information on which to base its health-related behavior if it so desires. (Saying this, I am still shocked to see seemingly rational people smoke cigarettes unless they do so knowing the odds.) Even if lifestyles changed appreciably in that a visible minority of people would have fewer heart attacks, lung cancer, and cirrhosis of the liver, the increased longevity would result in a higher proportion of people living beyond 80 with compounded disabilities. There is no way out of an increase in chronic conditions. We will need both a cure and a care system.

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COST CONTAINMENT: BUILDING A FLEXIBLE RESPONSE

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Policies which are put forth in the name of cost containment often have a profound impact on the priorities of the health care system and on the organization and delivery of services. Often the effects on the nature and distribution of services are more significant than the impact on costs. Under these circumstances, it is incumbent upon us to choose cost containment policies which allow the health care system the flexibility to respond to changing conditions.

Many people are drawn into concern about cost containment by recognition that many of the ways in which medical resources are used have only limited or poorly substantiated relationships to health status. This leads to programs which place the burden of proof on health care providers to demonstrate that treatments are effective before they are considered acceptable. As professionals concerned with cost containment, we would be wise to ask ourselves whether the policies which we advocate are capable of meeting a similar test.

The international experience reveals a wide range of policies and practices which have been given serious consideration. This conference has focused primarily on four areas: the costs to the consumer, the reimbursement of providers, utilization review, and planning. U.S. policy has given great weight to the strategy of encouraging Health Maintenance Organizations (HMOs) and to the introduction of Certificate of Need. A variety of budget review systems have been tried throughout the world, and great diversity is found within countries both geographically and over time.

It is recognized widely that at the heart of the cost issue lies manpower policy and particularly the question of the degree of specialization. Specialization itself reflects the march of technology. The role of insurance is fundamental, not only because there are "demand pull" cost increases when coverage rises but also because of the "blank check" cost increases which result from continuing changes in technology with a

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[1] This paper represents the views of its author. There has been only limited circulation of the paper to the Institute staff and no formal review procedure. No opinions, statements of fact, or conclusions contained in this document can properly be attributed to the Institute, its staff, its members, or its contracting agencies.

high level of insurance coverage. The objective of a long-run, cost containment strategy is to moderate growth patterns to better reflect the outcomes that would be achieved if consumer preferences, taking into account all of the costs they eventually pay, were more fully reflected in decisions made at the time of use.

The diversity of international experience demonstrates that while there may be some policies that are uniformly unsuccessful and some that are uniformly successful, there are many more whose success is varied. This may reflect differences in what *can* succeed. The right policy mix may vary significantly from one country to another. The public referendum on health care budgets in the Swedish county councils may be totally unworkable in Germany, where the trade union influence is strong. The HMO strategy, while attuned to modern methods in the United States, could not keep pace with the advance of technology in the British clubs at the turn of the century. A set of cost containment policies does not exist apart from the economic, social, and medical systems and the mood of the time.

This point has been brought home clearly by the experience within the United States since the passage of the National Health Planning and Resources Development Act of 1974. What was thought to be the best experience of individual states was packaged into a mandatory, uniform national program for each state. In the implementation stages numerous difficulties have come to the fore. These derive from differences between areas in population density, differences in the structure of state government, and variations in the ability to build on different components of the health system to effect change.

The federal government deliberately sought standardization as a means of increasing its control over local systems. But in the process, opportunities to adapt methods to those systems have been lost and the ability to learn from varying methods in different areas has been substantially reduced. There is a disturbing similarity to this experience in the efforts of planners in different countries to come together in a consensus over what should be done. There are already signs of a premature standardization of methods. While this may provide comfort, it will not provide the knowledge that can be derived from experimentation and risk-taking. One manifestation has been the widespread adoption of complex planning systems, while attempts to introduce financial incentives remain extremely limited, even for relatively simple objectives such as reducing length of stay and raising occupancy rates.

The question of flexibility also arises when we begin to talk about ways of integrating cost containment mechanisms into a broader administrative and policy network. Cost containment policies have tended to evolve separately, dealing with one aspect of the problem at a time. We have established separate administrative units and procedures for rate-setting, Certificate of Need, and utilization review. As we begin to integrate the common elements of planning and budgeting, it becomes apparent that what is required is an evolutionary approach that allows us to build on the present systems even if they inconveniently vary from place to place.

The need for flexibility becomes even more apparent when we look at the divergence between the concepts on which cost containment policies are based and the realities of the world in which they are carried out. New York State's widely acclaimed prospective reimbursement system, on closer examination, is seen to have gone through a set of gyrations with adverse impacts that are only now beginning to be understood. In one decade the system moved through (1) a formula which granted hospitals increases in per diem reimbursement rates according to a moving average taken from a period of very high cost escalations; (2) a formula which allowed cost-of-living increases with no increase for intensity of services at all; (3) the Economic Stabilization Program (ESP) which combined wage controls with cost-of-living increases for services; (4) a post-ESP period with cost-of-living increases and an after-the-fact add-on to cover collective bargaining agreements; and (5) a current formula of no cost-of-living increases and a promise of no allowance for collective bargaining in a period of rapid wage gains. We are beginning to see a violent counterreaction on the part of providers which can lead only to an equally strong counterreaction from the public at a later time. Though we will never remove the underlying political nature of the decision, perhaps we can recover the "art of the possible" without either continuous upheavals or exclusive resort to expedience. But to do this will require greater sensitivity to the economic, social, and medical context within which policy is made.

The relationship of policy to the nature of these systems also is seen within New York State. There is reason to believe that certificate of need has been a success in the upstate areas of New York where there is a less developed medical care system with smaller facilities. But in New York City, certificate of need appears to have been a failure.[2] It is important that we find out whether some other approach would have worked better in areas with more powerful institutions and complex services so that we can develop systems that will be more appropriate to the future. At the same time we will want to be careful that those policies are not applied inappropriately to medical systems at earlier stages of evolution.

Perhaps the most troubling development in emerging cost control policies is the heavy emphasis on regulation. In the United States, there has been a movement to deregulate industries which have a long experience of regulation and in which the hazards of regulation have been documented repeatedly. In spite of this, however, regulation is growing in areas which previously have had little, to a degree that far outweighs the pace of deregulation in the others. The risk is that we will cease to innovate. That risk is particularly great at the present time.

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[2] Gordon Hatcher has noted a similar difference in Canada.

We have entered a period in which, for the first time in recent history, the service industries are undergoing rapid innovation and change. It would be a major catastrophe if at just that time our attempts at cost containment were to prevent those developments from reaching maturity.

We have to examine carefully the nature of the changes that are taking place and the factors which may influence the direction which they take. We have seen tremendous technological advances and economies of scale in laboratory, pharmacy, X-ray, medical records, minor surgery, and other areas. Are these developments the response to changes in the state of the art in the economy as a whole, and if so, what opportunities do they create for the medical care sector? Are we witnessing an induced innovative response in which the levels of medical care costs themselves have created incentives for the innovations to take place? Are the early uses of computerized diagnosis the beginning of a major revolution through the influence of the computer on the health care industry?

We talk a great deal about moving away from hospitalization. But there are indications that the new technologies may be creating a separability in production in which it is increasingly possible to perform functions at times and places other than during a hospital stay. Are changes in public attitude or government policies, which have been credited with the beginnings of what may be a large movement away from the hospital, simply a response to increased separability in the nature of the technology? There always has been a difficult problem in reducing the size of institutional structures made obsolete by technological change. Developments in tuberculosis and mental hospitals are well-known examples. Are we at a phase in which there is a growing problem of reducing the part of the system that is becoming obsolete? If so, will the "cure" for that problem prevent the very developments to which we look for improvement?

There is a tug of war between rampant cost inflation and destructive overregulation. We cannot solve this problem by balancing extreme forces against each other. Instead, it will be necessary to moderate both extremes. This will require the flexibility to innovate and develop new approaches. The chances of success are greatest if the approaches and methods used are consistent with realistic assessments of the developments in our economic, social, and medical systems.

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DISCUSSION VI

Dr. William Glaser: Nowadays from a number of international conferences in which papers are presented on the subject of costs, one often gets the impression that everybody is in a terrible condition, but equally so. What is needed is very careful comparative analysis, because certain countries have problems that are greater than those in other countries, while some countries are much better off, particularly when it come to solutions.

Ostensibly, our purpose here is to talk about cost containment techniques. We know that certain countries have devices that work very well and could be emulated successfully. One lesson from a conference is not to become pessimistic and defeatist, but to spend time afterward making careful comparisons and trying to export experiences.

Dr. David Salkever: Following up on Dr. Leveson's comments, I would be very interested in hearing from some of the people from the United Kingdom and Sweden, both of which rely rather heavily on planned and relatively centralized systems, concerning their experiences in the development and introduction of cost saving innovations. Does it appear that when the systems are centralized they also are ossified? Or are there in fact sufficient incentives for development and introduction of innovation?

Dr. Finn Kamper-Jørgensen: I would say that our experience [in Denmark] with planning systems is rather short. Cost containment is not the main purpose of planning, which also plays an important role in the basic thinking of equality in society. By means of planning one can distribute resources equally—geographically, for example.

Although we have planning, total costs rise just as rapidly in my country. In planned systems the distribution of health care resources to individuals is better, but the cost is the same. That might be a cost containment result which I would find worth pursuing. But in terms of the share of gross national product (GNP), there is no change. Innovations still take place.

Dr. Claes Örtendahl: I would like to expand a little on a particular issue. We have been looking into the cost development over a rather short period of time—the 1960s up to the prospects for the 1980s. But if you look at cost development over a longer period of time, you will find no continuous, dramatic rising trend. What has happened in the postwar period may be an episode caused by rather unique circumstances.

What really happened in the 1950s and afterwards to affect the cost curve, and will these factors that have been operating continue to press the cost curve upward? I am not interested in the rather trivial fact that health care benefits from growing economic resources in society make it possible to let this sector keep its share of the economy. I am interested in the reasons why health care takes an increasing share of our common resources.

Essentially there are five factors to take into consideration. One that has played an important role has been the change in family patterns. Migration from the rural parts of Sweden to urban areas has changed the patterns of housing and also has swept away the earlier system of multigeneration families. The impact of this on health care costs probably is tremendous—at least in Sweden. In addition , the fact that women are now going into the labor market takes from the family a valuable labor force that traditionally cared for sick people, children as well as grownups, and for old people. "Costs," which earlier existed only within the family and could not be reckoned in monetary terms, now have been transferred to society and can easily be so reckoned.

A second factor of great importance is the change in the educational system. People today are aware to a much higher degree of the importance of seeking help from the health care system. This can be seen most clearly in Sweden in the maternity health care systems. As educational levels increase, demands for preventive health care also increase—and this costs money—but on the whole we benefit in the form of better health for children and mothers.

A third factor is the strong trend toward egalitarianism in society. Health care in Sweden once was relatively cheap because the health care workers were underpaid by present egalitarian standards. It is fair to say that the advantageous situation for health care financers depended to a great extent on the exploitation of women, who either were supported by their husbands or had very poor living conditions.

A fourth factor is the increasing number of old people—partly a result of good health care, but mostly of better living conditions.

The fifth factor is changing health hazards. I know very little of this, but let me mention smoking, traffic, and pollution to give you some idea of what I mean.

There are a few indications in Sweden that these factors will continue to push the cost curve upward year after year. Migration does not change the distribution of population between town and country any more. The number of women leaving their homes for the labor market will increase, but only for another 10 years or so. A further decrease in the differences in economic standard for health care workers and other groups will occur and make health care relatively more expensive, but we are now approaching a new equilibrium. The number of old people will increase until the late 1980s and then stabilize. The unknown factor is changing health hazards. But this also is the area in which active measures can have an impact on the demand for health care.

On balance, I think it is reasonable to say that the present situation for health care is the result of unusual—maybe even unique—economic and social changes. We now are approaching some kind of equilibrium.

If I am correct, the problem of containing health care costs is one that can be altered only marginally by different administrative measures.

The role of planning in this situation cannot be to contain costs but to ensure an acceptable distribution of health care and a structure in the health care system that reflects society's basic attitudes toward health care.

DR. PAUL GERTMAN: I think there is one area that possibly could lead to some international cooperation. A major factor in health costs of Western nations is the viruslike spread of hardware technology. Once developed or introduced in any one nation, it rapidly diffuses and spreads. It develops its own imperative, often of epidemic form.

There are a lot of things in the pipeline: membrane oxygenators, heart pumps, and other devices that will help a very few people and be misused to prolong the life of many others. I think we could get together on a cross-national basis to decide which we want to subsidize for development and which we do not. We are beginning to talk about moratoria in certain areas, such as recombinant DNA research, and this is one area that has contributed to all of our cost rises. Furthermore, I think we can begin to make some rational decisions, because this is an area where central government usually plays the key role in setting off the chain reaction of technology development. Maybe the subject for a future meeting could be the means by which groups from the Western nations can begin to develop some policies in this area.

DR. VICENTE NAVARRO: Dr. Glaser suggested, and I think it is very important, that we identify the different gradients we have in the Western world. While I think I share some of the pessimism that has been displayed in terms of things being in pretty poor shape everywhere, still, I also think it is fair to say that there are different gradients of being in poor shape. And these gradients are quite relevant.

I have attended these types of conferences many times, particularly international conferences, and at the end, someone always says: "Well, I see that everyone, everywhere has the same types of problem." But what does this mean? I think there is a gradient of problems and a gradient of solutions, and this fact should be faced.

Another thing that is said frequently is: "We in the United States do it that way," or "We in England do it this way," etc. To me, this approach is both apolitical and ahistorical. There is no such thing as "we" in the United States. There are classes, groups, races, and sexes, and each does it differently.

This is to complement what Dr. Glaser is saying. It seems to me that the merits of this conference should be not only in terms of the techniques and methods it discusses but in terms of its politics. I think this has to be said at an international conference because there is a naive belief that any given method or technique can simply be extrapolated from one country to another. We can see the present infatuation of the World Health Organization (WHO) with the barefoot doctor. WHO is enamored and wants to import Chinese barefoot doctors all over the world. Well, this is wrong, of course. Barefoot doctors are responding to a specific political reality. You cannot just pick them up and transplant them to East Baltimore. But it is almost getting to that point, of just learning to pick up a method and bringing it here. Therefore, it is absolutely relevant at an international conference for us to examine the political and historical determinants of those specific methods. When we understand their meaning, we can then start exploring whether there is a possibility of not just extrapolating but of adapting a method to our own realities.

Let me finish by making a plea for another conference. This one has been an interesting step, but we need another one on the politics of control, on who controls the planning, who controls the recommendations, and how does the control take place? I think such a conference would be a very valuable and fitting followup to this one.

DR. ALAN MAYNARD: I would like to follow on from that and return to the point about planning flexibility in England. Our recent experience in planning is very limited because we devised the first partial and explicit allocation formula in 1971. Before we adopted planning of this nature, we were not too flexible. This returns to the point made earlier that you have to look at who are the decisionmakers within the National Health Service (NHS) to see whether the NHS has changed. Only since 1970 has there been a positive challenge to the decision-making groups which existed from 1948 through 1970. This positive challenge is going to be very interesting because it will mean that the decision makers' interests are going to be flouted and that the control of professions, particularly in the southeast of England is going to be challenged.

Even before 1970 we were beginning to move. There were changes in the political ethos and worry about inequality and distributional objectives. This led to some changes, despite the hold of the professions on decision making.

The final point concerns regulation. One regulates markets in particular ways because the markets are failing to do what one wants them to do. I think the problem in looking internationally at the health scene is that societies have different objectives and we must be very clear about setting our objectives before we look at cost containment. In the United Kingdom in particular, we are facing a severe resource restraint but cost saving is not the major objective. What Dr. Kamper-Jørgensen said in regard to Denmark also is true of the United Kingdom, i.e., the questions are ones of distributional objectives and greater equity at present.

Mr. Paul Gross: I have three suggestions for an agenda for a future conference, as viewed by somebody from the Antipodes. The first relates to our previous debate. My conviction is that the research side of public policy and health still is so incomplete as to make international comparisons almost meaningless. When I heard the argument that utilization review may cost more than it saves, I wondered how I would defend peer review or quality assurance to my government [Australian]. The whole question, of course, hinges around the costing system that we use for our comparisons. What do we actually save when we move somebody out of a hospital into an alternative form of care? Surely it is only the variable cost component, and what do we include in that cost? It seems to me that the first item on a future agenda should be to agree on the accounting system by which we impute gains from one policy action or the other. One cannot convince a politician unless one has an accounting system that provides the hard data that identify the cost implications that could swing the case one way or another.

Second, we are talking about measuring the different stages of use of technological developments. What are the real effects on cost of technological change? I have not seen many studies that I could duplicate in Australia and make the case that less medical technology is required, not more.

Third, on prevention I have two problems. While I believe in the Canadian "new perspectives" philosophy, I see problems ahead. The first problem, common to us all, is to convince politicians to divert funds from cure to prevention, *not* to spend more on both cure and prevention. The second problem is how to convince the consumer that he should change his lifestyle, environment, or use of health services. I believe that the only way I will be able to influence this is to take 20 or 30 tracer conditions, identify the paths of those conditions if not prevented, follow through the consequence of those diseases for national disability and impairment, look at the consequences of attacking those diseases through medical and social prevention mechanisms, and then say to the politician that the benefits from doing this are likely to be $X million over the next 20 years if you act now, and the costs $Y million, hoping that X exceeds Y.

I started on such research in Australia some 2 years ago. My other duties have impeded its speedy development, but when I tell you that if we attacked 50 percent of all diseases that cause disability and impairment in Australia, we still perhaps would only reduce disability and impairment by 20–30 percent over 20 years, you have some idea of the problem ahead. That is an average of just over 1 percent a year with the current state of knowledge in preventive strategies (medical or social). With that level of reduction in disability and the economic gains therefrom, we are not in great shape at the moment to get budget assistance in developing a national preventive strategy unless there is supporting evidence from other nations.

I am in even worse shape when I try to convince the consumer of my intent (and his ability) to change his naughty habits. Because to change the system that causes heart disease, I would need not only to change his habit of avoiding exercise (and develop exercise facilities) but at the same time, I would need to push for programs for cardiovascular surgery. Also, a total approach would have to take on the dairy and tobacco lobbies and to persuade them to discontinue products that, consumed in excess, cause health disorders. If we think about the long-term subsidies that will be necessary to bring about all these changes in health status, we now are entering a level of policy analysis that very few of us have thought about seriously.

Finally, I believe that perhaps the major influence on health costs in the future is the ongoing change in intergovernmental financing relations evident in most nations. About that, we have heard little, except from Canada.

But we know too little to argue about the effect of incentives that might operate through different levels of government. I advance that for a fourth item for a future agenda, and hope Dr. Glaser has a few answers for us by then.

DR. IRVING LEVESON: I would like to comment on a research strategy. One of the problems in trying to cull generalities from many experiences is that we are dealing with a list of potential policies—utilization review, cost sharing, and so on—and are looking at examples in which different methods are tried in different parts of the medical system, as well as in different countries.

We can characterize the medical system as consisting of certain common elements: (1) general services for which supply clearly creates its own demand; (2) specialized services for which there is a relatively finite demand, such as treatment of kidney diseases; and (3) diagnostic and support services such as laboratory and radiology.

We could think of a matrix in which we have different policies on the one hand and different elements of the system on the other. I think we must start with some specific boxes of that matrix and make comparisons across countries. At this point we are trying to look at the effect of cost sharing on ambulatory care in one country compared with the effects of cost sharing on inpatient use in another country, and I think that is just too much diversity to get a clear idea of what is going on.

My research strategy, both for formal analysis and for comparing results as we get them, is to take specific medical sectors and then to look at the effectiveness of techniques, one at a time, across countries in those sectors. It will take a lot more effort to go into combinations of techniques, but looking at similar parts of medical systems should go a long way toward eliminating the ambiguity in international comparisons of what works and what does not.

DR. GORDON HATCHER: Some people here will be asked when they get home, "What should be done now to contain costs?" I am sure that governments and private agencies will continue to try to contain costs, whether we give them many answers or not. I like to think that, in spite of all the pessimism that has been voiced here, ours really is a researcher's pessimism, which says that no one element in the control system has been proven to be effective, and in no country have controls really been effective. I would like to look at it in a more pragmatic way and say instead that it is probable that costs may continue to rise, but there is reason to think that they can be restrained by a mix of methods, many of which have been discussed and some of which have demonstrated partial effectiveness. Some may be more appropriate than others, given the factor of continuing, unmet need in the population. Also, there are two factors in this cost constraint methodology we should consider.

The first is, are we asking the right question? Is cost containment really our goal? Equity is the goal of Canadian health insurance, not cost containment. Equity, more than cost containment, certainly is needed in the United States in the health care field. The question is, How do we get cost containment along with improved access?

Finally, let us say that our goal is clear and our methods work. There remains the political issue. Is there the political organization, power, and willingness to put the plan into effect? I think some of the controls in Canada would have worked, except that for a long time there was no wish in many provinces to control costs, only a wish to improve and extend services. It is only very recently that we have been thinking about cost control. I do not think it is a fair assessment to say that everybody tried and nothing worked.

Dr. Derick Fulcher: The International Labor Office's study of the causes of the rising costs of medical care under Social Security and their relative and interconnected importance naturally cannot guarantee success. It is perfectly true, as has been said, that solutions cannot be necessarily be transplanted from one country to another. But, I think one must at least find out what there is to transplant before giving up. Only by international study can it be determined what kinds of plans are being developed.

I still think that we have to do all we can to control health care costs because there is a real danger of falling into the trap of thinking of health care as one isolated factor. It is not. It is part of a whole spectrum of various kinds of social security and social welfare programs, and costs have been going up. They are still going up fast and they may go up faster. For example, if one thinks in terms of old age, the Swiss situation is, in round figures, that for every 100 workers there are some 25 pensioners, which is a ration of 4:1. I think that in not much more than 10 years that ration will be nearer 3:1. So one has this constant intergenerational transfer of income to pensioners, which is a very heavy burden. In Europe there are some signs of resistance by workers to carrying this burden of those who depend on social security.

Finally, I do not think that we should reject too quickly solutions which might seem short term, as has been mentioned. It is usually very difficult to forecast the long-term consequences in this complicated field, and unreasonable fear of them should not inhibit action now.

ANNOTATED BIBLIOGRAPHY

MEANS OF COST CONTAINMENT IN HEALTH SYSTEMS: A COMPARATIVE VIEW

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INTRODUCTION

This conference focused on a framework for the study of health care cost containment methods in the health service systems. The four methods analyzed were pricing and cost-sharing, provider reimbursement, utilization review, and health planning. Cost-sharing attempts to reduce utilization by placing part of the health care cost burden on the patient, while provider reimbursement uses prospective budgets or incentive reimbursement to encourage providers to become more efficient, thereby reducing utilization. Utilization review requires providers to satisfy admission and procedures criteria to maintain quality and constrain costs. Health planning allocates health facilities and health manpower on a national and local basis to avoid duplication and scarcity.

This bibliography is an accompaniment to the papers prepared for the conference and, it is hoped, will be of use to scholars in this field. General references on health care systems are provided to facilitate comparisons of health policies. Some items of particular relevance to the conference were selected for annotation.

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INDEX

Aus, Australia; *Belg,* Belgium; *Dmk,* Denmark; *Fr,* France; *FRG,* Federal Republic of Germany; *GB,* Great Britain; *Neth,* Netherlands; *Swe,* Sweden; *Swi,* Switzerland; *US,* United States.

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